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100/300 AREA UNIT MANAGER MEETING
ATTENDANCE AND DISTRIBUTION
August 14, 2008

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100/300 AREA UNIT MANAGERS MEETING
APPROVAL OF MINUTES
August 14, 2008

APPROVAL: _____ Date 9/11/08
Mark French, DOE/RL (A3-04)
River Corridor Project Manager

APPROVAL: _____ Date 9/11/08
Brian Charboneau, DOE/RL (A6-33)
Groundwater Project Manager

APPROVAL: _____ Date 9-11-2008
John Price, Ecology (H0-57)
Environmental Restoration Manager

APPROVAL: _____ Date 9-11-2008
Larry Gadbois, Rod Lobos, or Laura
Buelow, EPA (B1-46)
100 Aggregate Area Unit Manager

APPROVAL: _____ Date 9-11-2008
Alicia Boyd, EPA (B1-46)
300 Aggregate Area Unit Manager

100 & 300 AREA UNIT MANAGER MEETING MINUTES

Groundwater, Source Operable Units, Facility (D4 and ISS), and Mission Completion

August 14, 2008

Washington Closure Hanford (WCH) Building, 2620 Fermi Drive, Richland, Washington

ADMINISTRATIVE

- Next Unit Manager Meeting (UMM) - No meeting was held in July 2008. The next meeting will be held September 11, 2008 at the Washington Closure Hanford (WCH) Office Building, 2620 Fermi Avenue, Room C209.
- Attendees/Delegations - Attachment A is the list of attendees. Representatives from each agency were present to conduct the business of the UMM. Attachment B documents any delegations received from the agencies.
- Approval of Minutes – The June2008 meeting minutes were approved by the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and U.S. Department of Energy, Richland Operations Office (RL).
- Action Item Status - Status of action items was performed, and updates provided (Attachment C).
- Agenda: Attachment D is the meeting agenda.

Agreement: RL, EPA, and Ecology agreed to revise the agenda for September to discuss each major area for groundwater and soils rather than having separate updates for groundwater and soils.

EXECUTIVE SESSION (Tri-Parties Only)

No executive session was held.

100/300 AREA GROUNDWATER

Attachment 1 provides a status or information. No issues were identified, no agreements were documented, and no action items were documented.

SYSTEMATIC PLANNING PROCESS FOR RIVER CORRIDOR

No issues were identified, no agreements were documented, and no action items were documented.

GROUNDWATER/SOURCE INTEGRATION

Attachment 2 provides an update to the action item list resulting from the 5-year review. No issues were identified, no agreements were documented, and no actions were documented.

MISSION COMPLETION PROJECT

Attachment 3 provides a status or information. No issues were identified, and no agreements were documented.

Action 1: RL shall provide Ecology with a task level/critical path schedule for the Remedial Investigation for the Columbia River. RL shall provide the schedule to Ecology by the next UMM.

Action 2: RL shall provide Ecology with a status on the 100-D Orphan Site Evaluation Report.

100/300 AREA FIELD REMEDIATION AND CLOSURE (FR)

Attachments 4 through 12 provide a status or information on various Field Remediation Project Areas, as well as agreements. Attachment 4 covers 100-B/C. Attachments 5 and 7 cover 100-D. Attachment 8 covers 100-H. Attachments 9 and 10 cover 100-IU-2 and 100-IU-6. Attachment 11 covers the schedule for sampling and design. No issues were identified.

Action: RL shall meet with Ecology to discuss options and path-forward for waste sites 100-D-31, 100-D-63, 100-D-73, and 100-D-77.

Agreement 1: Attachment 7 documents Ecology approval to use water encountered in a pipeline during excavation of 100-D-31 as dust suppression water based on laboratory sample results.

Agreement 2: RL, EPA, and Ecology agree to the relocation of the Radiological Counting Facility from the 100-N Area to the 100-D Area.

Agreement 3: RL and Ecology agree to allow stabilization of the stained soil area southwest of 100-D-30 in order to construct a ramp to support future characterization using the hydraulic hammer rig. The amount of material used for the stabilization shall be minimized.

Agreement 4: RL, EPA, and Ecology agree to have two separate decision documents to address changes needed to the 100-N Area Record of Decision (ROD)and the 100 Area Remaining Sites ROD. It is anticipated that a ROD Amendment would be necessary for the 100-N Area, and an Explanation of Significant Difference would be necessary for the 100 Area Remaining Sites ROD.

Agreement 5: Attachment 8 documents Ecology approval for the waste sorting cell location for the 100-H-1 waste site.

Agreement 6: Attachment 10 documents RL and EPA approval for backfill of the 600-111 waste site.

DEACTIVATION, DECONTAMINATION, DECOMMISSION, DEMOLITION (D4)/ INTERIM SAFE STORAGE (ISS)

Attachment 12 provides a status or information for the 300 Area and Attachment 13 provides a status or information for the 100 Area. No issues were identified, and no actions were documented.

Agreement 1: Attachment 14 documents Ecology approval to use water from the 182-N raw water and demineralized water systems as dust suppression water during 100-N D4 activities.

Agreement 2: Attachment 15 documents RL and Ecology approval for clarifications to the 100-N Ancillary Facilities Removal Action Work Plan, DOE/RL-2002-70, Rev. 2. Clarifications are focused on actions taken with removal of facilities with no associated waste site beneath the facility.

SPECIAL TOPICS

No special topics were discussed.

Attachment A

Lobos, Rod	LOBOS.ROD@EPA.GOV	B1-46	EPA	
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Attachment B

Donnelly, Jack W

From: Price, John (ECY) [Jpri461@ECY.WA.GOV]
Sent: Tuesday, August 12, 2008 8:19 PM
To: Charboneau, Briant L; Gadbois.Larry@epamail.epa.gov; French, Mark S
Cc: Jones, Mandy E; Gadbois.Larry@epamail.epa.gov; Donnelly, Jack W
Subject: Delegation: 100/300 Area Unit Manager Meeting (August 14, 2008)

I delegate my Project Manager authority and responsibility to Mandy Jones for the period of the 100 Area Project Manager Meeting, August 14, 2008.

She has the necessary experience and capability to fulfill the assigned responsibilities.

From: Donnelly, Jack W [mailto:jwdonnel@wch-rcc.com]
Sent: Tue 8/12/2008 1:25 PM
To: Donnelly, Jack W; Ayres, Jeff (ECY); Bignell, Dale T; Black, Dale G; Bond, Rick (ECY); Borghese, Jane V; Boyd.Alicia@epamail.epa.gov; Brosee, Manfred N; Bryson, Dana C; Buckmaster, Mark A; buelow.laura@epamail.epa.gov; Callison, Stacey W; Capron, Jason M; Carlson, Richard A; Cathel, Robert L; Cearlock, Christopher S; Charboneau, Briant L; scimon@oregontrail.net; Clark, Clifford E; Clark, Steven W; Darby, John W; Roberta_E_Day@rl.gov; Dieterle, Steven E; Dresel, P Evan; einan.david@epamail.epa.gov; Fabre, Russel J; Fancher, Jonathan D (Jon); Faulk, Darrin E; faulk.dennis@epamail.epa.gov; Fletcher, Jill E; French, Mark S; Fruchter, Jonathan S; gadbois.larry@epamail.epa.gov; Goswami, Dib (ECY); Guercia, Rudolph F; Hadley, Karl A; Naomi_M_Hake@rl.gov; Hanson, James P; Hartman, Mary J; Hedel, Charles W; Duane_G_Horton@rl.gov; Huckaby, Alisa (ECY); Hulstrom, Larry C; Jacques, I D (Duane); Johnson, Wayne F; Jones, Mandy (ECY); Koegler, Kim J; Landon, Roger J; Larue, Deena N; Lerch, Jeffrey A; Little, Nelson C; sandral@nezperce.org; lobos.rod@epamail.epa.gov; Vanessa_A_Mastren@rl.gov; Miller, Larry R (Rex); Obenauer, Dale F; Ovink, Roger W; Parnell, Scott E; Peloquin, Michael G; Peterson, Robert E; Petersen, Scott W; Piippo, Rob; Price, John (ECY); Proctor, Megan L; Robertson, Julie R; Robertson, Owen C; Rochette, Beth (ECY); Sands, John P; Saueressig, Daniel G; Shattuck, Ann F; Shea, Jacqueline (ECY); Shrimpton, David J; Smet, Ann K; Smith, Chris; Smith-Jackson, Noe'l (ECY); Strom, Dean N; Swartz, Joseph M (Mike); Thompson, Mike; Triner, Glen C; Vanni, Jean (ECY); Vedder, Barry L; Winterhalder, John A; Zeisloft, Jamie
Cc: Corey.Hinds@CH2M.com
Subject: 100/300 Area Unit Manager Meeting (August 14, 2008)

Good morning:

Attached is the final agenda for the Unit Manager Meeting scheduled for Thursday, August 14, 2008 from 1:00 p.m. to 4:30 p.m. at 2620 Fermi Avenue (Washington Closure Hanford LLC Building) in Room C209. There is no executive session so the UMM will start at 1:30 p.m.

If you are unable to attend please send any delegations. For those having action items please be prepared to provide a status to help expedite the action item portion of the meeting. The open action items will be provided in a handout for Thursday's meeting.

Additionally, for those providing hand-outs and summaries please bring extra copies to share with others. Hope to see everyone on Thursday.

Respectfully, Jack Donnelly
372-2043

Attachment C

100/300 Area UMM
Action List
August 14, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	300-008	RL	T. Post	100/300 Area	RL shall develop the instructions for documenting D4 completions in the 100 and 300 Areas where no known waste site is under the building, and no releases to soil are documented or expected based on existing data. These instructions shall be added into the respective Removal Action Work Plans after review and approval from the respective lead regulatory agency for the specific Removal Action Work Plans in the 100 and 300 Areas.	Open: 4/12/07; Action: Ongoing action, and are still under development. Instructions are developed and is complete for the 300 Area. RL will submit a TPA Section 9.0 document change notice for the 100 Area. This remains an ongoing task.
O	100-149	RL	J. Hanson	100-H	RL/Fluor Hanford Inc. (FH) will review the extraction network for the 100-H pump and treat system, and provide recommendations to Ecology for optimization.	Open: 1/10/08; Action: At the 8/14/08 UMM, additional discussions with Ecology are necessary on the 100-HR-3 optimization, as well as the long-term remedial alternatives. Item remains open.
X	100-150	RL	M. Thompson	300-FF-5	RL shall provide EPA with an updated Sampling and Analysis Plan (SAP) for the 300-FF-5 Operable Unit.	Open: 1/10/08; Action: Internal reviews are complete, and RL plans to provide to EPA by end of May 2008. Item was closed at 6/12/08 UMM.
X	100-152	RL	N. Hake	100-N	RL will schedule a meeting with Ecology on coordinating between D4 and FR activities at the 100-N Area.	Open: 1/10/08; Action: Item closed at the 8/14/08 UMM.

100/300 Area UMM
Action List
August 14, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
O	100-153	RL	C. Smith	100 Area	RL shall schedule a meeting with EPA and Ecology to discuss potential additional institutional controls at specific waste sites (e.g., concrete or other physical markers at 118-B-1 burial ground).	Open: 1/10/08; Action: RL has set up a meeting with EPA for June 16, 2008. Item remains open.
O	300-009	RL	M. French	300 Area	RL shall brief EPA and Ecology on alternative exposure scenarios for the 300 Area.	Open: 1/10/08; Action: RL met with EPA, and based on input received, RL will provide an update after further internal discussion.
O	100-158	RL	J. Hanson	General	Ecology will schedule a meeting with RL to discuss well variances, and RL will provide information to Ecology beforehand.	Open: 4/10/08; Action: Item remains open, & Ecology still awaiting information before scheduling a meeting.
O	100-159	RL	J. Hanson	General	RL shall follow-up with Ecology and EPA on well sampling backlog, and discuss recommended actions.	Open: 6/12/08; Action: At the 8/14/08 UMM, RL discussed actions being taken to reduce the backlog. Item remains open to verify actions and present a status of the backlog at the next UMM.

100/300 Area UMM
Action List
August 14, 2008

Open (O)/ Closed (X)	Action No.	Co.	Actionee	Project	Action Description	Status
X	100-160	RL	J. Hanson	General	RL shall schedule a meeting with Ecology and EPA to discuss the final Remedial Investigation/Feasibility Study (RI/FS) Work Plan outline. This meeting is to be a stand-alone meeting, separate from the systematic planning meeting on June 18, 2008.	Open: 6/12/08; Action: Item closed at the 8/14/08 UMM.
O	100-161	RL	N. Hake	100-N	RL shall provide Ecology with any documentation for petroleum sites at 100-N that indicates radioactivity.	Open: 6/12/08; Action: Item remains open.
O	100-162	RL	M. French	Col. River	RL shall provide Ecology with a task level/critical path schedule for the Remedial Investigation for the Columbia River. RL shall provide the schedule to Ecology by the next UMM.	Open: 8/14/08; Action:
O	100-163	RL	T. Post	100-D	RL shall provide Ecology with a status on the 100-D Orphan Site Evaluation Report.	Open: 8/14/08; Action:
O	100-164	RL	T. Post	100-D	RL shall meet with Ecology to discuss options and path-forward for waste sites 100-D-31, 100-D-63, 100-D-73, and 100-D-77.	Open: 8/14/08; Action:

Attachment D

100/300 Area Unit Manager Meeting
August 14, 2008
Washington Closure Hanford Building
2620 Fermi Avenue, Richland, WA 99354
Room C209; 1:00-4:30 p.m.

1:00 - 1:30 p.m. **Executive Session (Tri-Parties Only):**

- No session

1:30 p.m. - 1:45 p.m. **Administrative:**

- Approval and signing of previous meeting minutes (June 2008)
  - Note: July 2008 meeting cancelled
- Update to Action Items List
- Next UMM (9/11/2008, Room C209)

1:45 - 4: 30 p.m. **Open Session: Project Updates:**

- 100/300 Area Groundwater (Jim Hanson/Ann Shattuck)
- Systematic Planning (B. Charboneau)
- Groundwater/Source Integration (All)
  - 5-year review update (Jim Hanson/Alicia Boyd)
- Mission Completion (Jamie Zeisloft/John Sands/Jeff Lerch)
- 100/300 Area Field Remediation and Closure (FR)
  - 100-F (Chris Smith/Jon Fancher)
  - 300-FF-2 (Chris Smith/John Darby)
  - 618-10/11 (Chris Smith/Scott Parnell)
  - 100-B/C (Chris Smith/Dean Strom)
  - 100-D (Tom Post/Mark Buckmaster)
    - 100-D-31 Pipeline Waste Site
    - 100-D-63 Pipeline Waste Site
    - 100-D-73 and D-77
    - 100 Area Remaining Sites ESD
  - 100-H (Vanessa Mastren/Mark Buckmaster)
  - 100-IU-2/IU-6 (Chris Smith/Nelson Little)
    - Historical property update 600-202 & 600-109
  - Sampling and FR Design (Chris Smith/Jason Capron/Rich Carlson)
- D4/ISS
  - 300 Area D4 (Rudy Guercia/Megan Proctor)
  - 100 Area D4 & ISS (Naomi Hake/Chris Smith/Dan Saueressig)
- Special Topics

Attachment 1

100/300 Areas Unit Managers Meeting,
August 14, 2008

100-NR-2 Groundwater OU - Russ Fabre

- Apatite injections
  - Apatite injections were completed July 24, 2008. There are no further injections planned for this year. The 13 wells received over 645,000 gallons of high concentration chemicals. Preliminary analytical results show that the apatite reaction is proceeding according to plan.
  - Infiltration gallery and phyto remediation contract releases have been issued to PNNL, research work to continue.

100-KR-4 Groundwater OU - Julie Robertson

- Monthly monitoring of cultural resources for 100-KR-4 was performed on July 21, 2008. No tribal members participated, and no problems were observed. Signs are being placed around the K2 Trench ("mile-long trench") stating that this area is culturally sensitive and directing vehicles to stay on the gravel roads.

- 100-KR-4 Remediation Treatment Status
  - For the period of July 1-31, 2008:
    - Extraction wells 199-K-125A and 129 were brought back into service on July 7, 2008 and July 15, 2008, respectively. Additionally, one of the two KR-4 transfer buildings experienced an electrical outage July 25-28 to support K Expansion facility electrical work, shutting off flow from four of the extraction wells for four days.
    - Total average flow through the system was approximately 246 gpm.
    - Average influent hexavalent chromium concentration was 21 µg/L.

- KR-4 Expansion
  - Construction is proceeding at KX. Electrical and mechanical work continues. Two of the four replacement injection wells have been developed and are awaiting baseline sampling. A third is in construction, and drilling will begin on the last well within the next few days.
  - The revised KX RDR/RAWP is being readied for RL and EPA review, scheduled to begin August 15, 2008.
  - A review of baseline sampling results for KX well co-contaminants identified the presence of elevated tritium. Tritium was measured at 286,000 pCi/L at extraction well K-144 and at 621,000 pCi/L at monitoring well K-157. These wells are downgradient of burial ground 118-K-1; concentrations up to approximately 100,000 pCi/L have been observed in the past at well K-111A, and elevated levels of helium-3 have been observed in soil gas around the northern perimeter of the burial ground. Evaluation of potential impacts of using extraction well K-144 at the design flow rate is ongoing.

- KW Groundwater Remediation
  - KW remediation treatment status for the period of July 1-31, 2008.
    - System operated normally.
    - Total average flow through the system was approximately 102 gpm.
    - Average influent hexavalent chromium concentration was 52 µg/L.

- The sampling and analysis plan for drilling four new wells in the vicinity of the 105-KW reactor (DOE/RL-2008-33) was issued, and drilling has begun.

100-KR-4: K-Basins Monitoring Task—Duane Horton (FHI-updated 8/4/08)

- Leak Detection Monitoring Results:
  - The most recent monthly sampling of wells close to the KE Basin was done in July. Results are not yet available. Previous results are on level concentration trends with recent, historical data.
  - There is no indication of groundwater impacts attributable to leakage of shielding water from either Basin.

- Monitoring Well Network:
  The most recent routine quarterly sampling of K-Basins monitoring network wells took place in July. Results are not yet available.
  - The next routine quarterly sampling of K-Basins network wells is scheduled for October 2008 and is coordinated with the monthly sampling event.

- Reporting:
  - The most recent quarterly, RCRA groundwater report was for October through December 2007 (SGW-37533).
  - The fiscal year 2007 annual groundwater report (DOE/RL-2008-01) is available at http://www.hanford.gov/cp/gpp/library/gwrep07.
  - The next quarterly, RCRA groundwater report, for the period January through March 2008 is in review by Hanford contractors and DOE.

100-HR-3 Groundwater OU - Dave Shrimpton

- HR-3 Treatment System
  - For the period July 1 to 31, 2008:
    - The system operated normally. Total average flow through the system was approximately 214 gpm. The new alarm callout system installation and startup was completed.
    - Average influent hexavalent chromium concentration for H Area was approximately less than 17 µg/L.
    - Average influent hexavalent chromium concentration for D Area was approximately 38 µg/L.

- Remediation Process Optimization
  - The Decisional Draft of the DR-5 performance evaluation report is being finalized for RL review which is planned to begin in mid August.
  - The RPO team delivered a Decisional Draft of the Remedial Process Optimization for the 100-D Area on July 15; the final technical and cost evaluation will be delivered September 15. RL and the RPO project team briefed Ecology on July 31 on the results to date and direction of the investigation.
  - Provided RL a preliminary evaluation of potential modifications to the HR-3 pump and treat system in terms of adding additional extraction and/or injection wells, including

the "hot spot" well at 199-D5-99. This evaluation has been incorporated into the overall RPO effort.
- The final summary report on the Chromium Remediation Technology Exchange Workshop delivered to RL on July 15.
- The report on the Groundwater-Columbia River Interactions Technical Workshop is undergoing concurrent internal/RL review; the final will be delivered to RL on September 15.
- Engineering is finalizing a resin test plan for the purpose of optimizing resins at the existing pump and treat system and providing information on resin selection to the RPO and RI/FS teams. A test skid has been designed and issued for bid; bid analysis is underway.

- DR-5 Treatment Status
  - For the period July 1 to 31, 2008:
    - System was shut down June 26 due to an elusive PLC malfunction and so that WCH could relocate some pipe and conduit as part of construction of a new crossover at 100-D. It was restarted July 17 except for one well, which was restarted a few days later.
    - Total average flow through the system was approximately 33 gpm.
    - The average influent hexavalent chromium concentration was approximately 554 µg/L.
    - Continued with waste stream process optimization to identify actions required to modify the DR-5 processing system and to eliminate discharge to the ISRM pond. The current 400% excess phosphate has been reduced to ~15% and the neutralization endpoint adjusted from 9.0 to ~10.5, reducing setting time and increasing precipitation efficiency. We are working towards elimination of chromium in the discharge to the ISRM pond by sequentially adjusting rates and quantities of other reagent streams, then potentially recycling the cleaned up liquid waste back through the process and eventually directly to the injection well.

- Horn Investigation
  - Completed the third round of groundwater samples. Overall the data is consistent with the first and second rounds of sampling.
  - Another round of e-tape measurements was also performed.
  - The Decisional Draft interpretive report has been reviewed internally and a summary presentation made to RL. The report is due to RL September 30.

- Summary of ISRM Status
  - Twenty nine ISRM wells were sampled in July. Values for hexavalent chromium low, similar to analyses from July 2007.

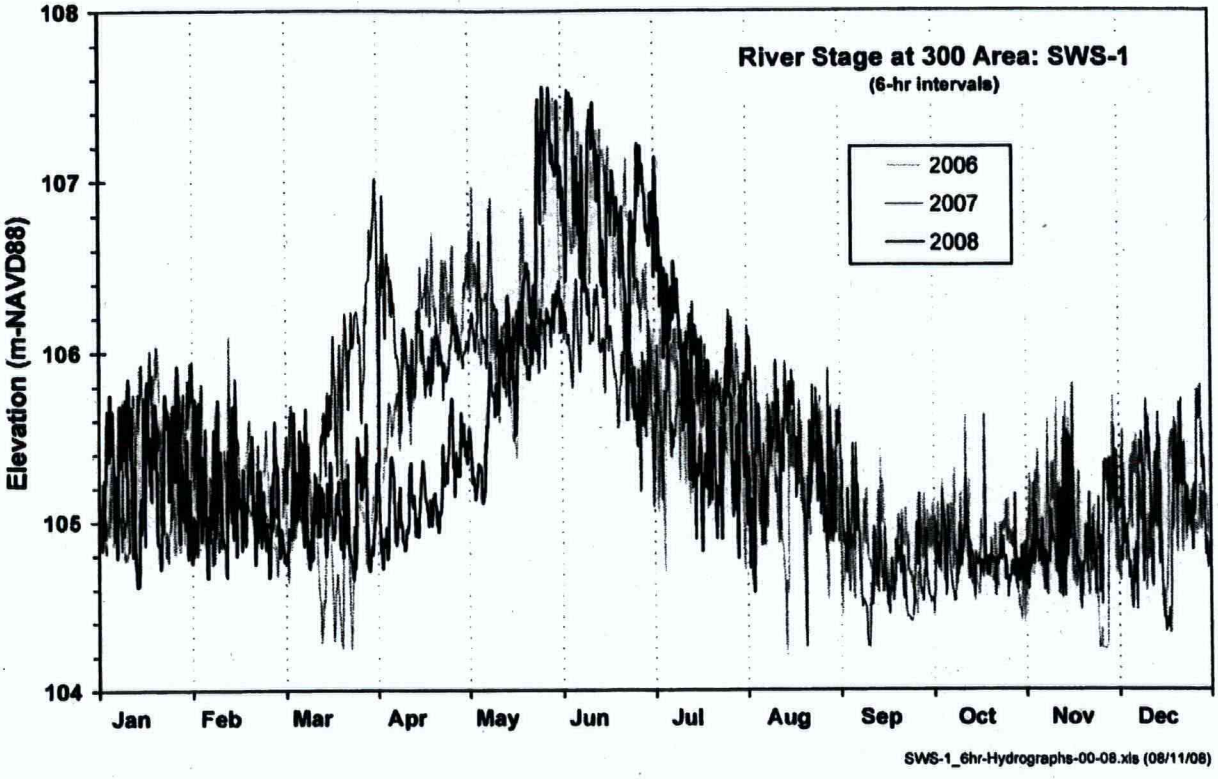
- EM-22 Technology Projects
  - Investigation for mending ISRM Barrier: Most of the field preparations were made in July, anticipating injection the first half of August. This includes installation of tanks, generators, and mixers.

- EC Treatability Test: The draft Treatability Test report was resubmitted to RL for their review. Further comments are expected from the EM-22 peer review, following the meeting held July 29.
- A draft report on the chromium source investigation in 100-D was prepared and submitted for internal review.
- The final Field Investigation Plan for investigation of chromium sources in the northern 100-D plume was approved by Ecology. Installation of three groundwater wells is expected to begin in August.
- Groundwater around the biostimulation wells is being sampled on a monthly basis. The groundwater is maintaining a reduced condition. A draft report is in internal review.

300-FF-5 Operable Unit—Bob Peterson and Ron Smith

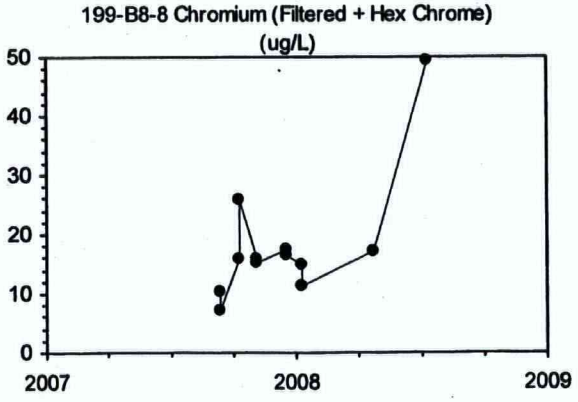
- Operations and Maintenance Plan Activities
  - *300 Area Subregion:* Very few new analytical results for 300 Area sampling have been loaded into HEIS during recent weeks. The June seasonal sampling event occurred primarily during late June/early July; uranium results are not yet available. Also, there are no new analytical results for monitoring conducted downgradient from the 618-7 burial ground remedial action site.
  - *618-11 Burial Ground Subregion:* [No new analytical results since last briefing].
  - *618-10 Burial Ground Subregion:* Results for several samples collected in May and June 2008 indicate uranium concentrations less than 15 ug/L.
  - *Update to Sampling and Analysis Plan (DOE/RL-2002-11, Rev. 2):* Final draft is currently under review at DOE. Sampling schedules proposed in Rev. 2 have been entered into the master groundwater schedule for FY 2009.
- Remediation Strategy Development
  - Review comments on the report describing the remediation strategy for uranium in groundwater beneath the 300 Area have been received from DOE and Washington Closure. Responses are being prepared, and the draft document is being revised.
- Other Activities
  - *VOC Investigation:* The report describing the results of VOC analyses conducted during the LFI and more recent VOC investigation has been completed and distributed (PNNL-17666, August 8, 2008).
  - Two reports are in draft form and in various stages of review: 1) Description of groundwater flow modeling for the 300 Area, and 2) description of uranium analyses for sediment samples collected during the VOC investigation.
  - *Systematic Planning for the 300 NPL Site:* Recent efforts have focused on planning for the first 300 NPL Site workshop, including preparing graphics that describe various components of the Conceptual Site Model.

Integrated Field-Scale Challenge Project, 300 Area: Drilling within the former South Process Pond footprint has been completed, with 35 new boreholes drilled into the unconfined aquifer. Hydraulic testing is currently in progress. Additional activities in the near future include geophysical surveys of the riverbed adjacent to the 300 Area.



100-BC-5 Operable Units—Mary Hartman

In July, hexavalent chromium increased in well 199-B8-8 to 49 µg/L from <20 µg/L in previous results. This well is located in south 100-B/C Area at the 100-C-7 site. Samples are being analyzed for ICP metals, so we will be able to confirm the increase with total chromium results. Hexavalent chromium in nearby well 199-B8-7 remained low in July (8 µg/L). Both wells are sampled quarterly.



100-FR-3 Operable Unit—Mary Hartman

Summary of Results from New Aquifer Tubes C6302 through C6316
(Sampled April or May 2008)

Constituent	# tubes sampled	# results	# detects	Min	Max	Notes
Antimony	4	8	0	<32	<32	
Arsenic	4	8	0	<50	<50	
Barium	4	8	8	10.7	46	
Beryllium	4	8	0	<4	<4	
Cadmium	4	8	0	<4	<4	
Calcium	4	8	8	25,800	32,200	
Chloride	7	7	7	1,020	4,880	
Chromium (total)	4	8	6	<4	10.6	
Chromium (hex)	8	10	9	<2	42	a
Cobalt	4	8	0	<4	<4	
Gross alpha	8	10	9	1	2.9	
Gross beta	8	10	8	1.4	12	
Iron	4	8	8	11.7	1,650	b
Magnesium	4	8	8	3,140	4,860	
Manganese	4	8	7	<4	93.1	
Nickel	4	8	1	<4	4.3	
Nitrate	7	7	7	907	8,720	
Potassium	4	8	8	1,040	2,190	
Silver	4	8	1	<5	7.2	
Sodium	4	8	8	2,180	2,780	
Specific Conductance	4	4	4	183	251	
Strontium	4	8	8	93.4	144	
Strontium-90	7	9	2	0	4.4	
Sulfate	7	7	7	9,630	21,100	
Trichloroethene	8	11	0	<0.36	<1	
Tritium	7	9	1	0	270	
Vanadium	4	8	8	7.3	11.4	
Zinc	4	8	3	4	21.4	

a Two highest Cr6 results suspected errors; highest unflagged Cr6 10 ug/L
b High iron results in unfiltered samples

Items of note:

- Two hexavalent chromium results exceeded 10 µg/L (C6309, C6316), but both are flagged as suspected errors because they do not agree with filtered, total chromium results or with results from adjacent tubes.
- Two tubes detected strontium-90, but both were below the drinking water standard: C6302 at 4.4 pCi/L C6308 at 1.5 pCi/L. Both are the shallowest tubes in their clusters, and are adjacent to the known strontium-90 plume, so results were as expected.

- High iron (unfiltered samples only) and manganese (filtered and unfiltered samples) are typical in new wells or aquifer tubes.

Aquifer Tube Installations – Jane Borghese

Aquifer tubes (a total of 75 tubes) have been installed at thirty-three sites. Installations were restarted this week at 100 B. K sites are expected to start to the week of August 18th, after the 30-day review period closes. The river stage needs to be lower for the remaining PO-1 sites (downriver of Hanford Town site). This is expected in early September.

Attachment 2

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

Issues and Actions	Action Due Date	Status August 2008
100/300 Crosscutting		
Issue 1. Additional risk assessment information is needed to evaluate the interim actions prescribed within the records of decisions and to develop final cleanup decisions.		
Action 1-1. Submit Draft A of the River Corridor Baseline Risk Assessment Report.	Jun-07	Complete
Action 1-2. Submit draft sampling and analysis plan for Inter-Areas Shoreline Assessment.	Aug-06	Complete
New Action 1-3. *Reassess and resubmit to EPA the protectiveness determinations for operable units 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1. 100-FR-2. 100-HR-1. 100-HR-2, 100-HR-3, 100-IU-2, 100-IU-6, 100-KR-1, 100-KR-2, 100-KR-4, 100-NR-1, 300-FF-1, and 300-FF-2 using new information from the River Corridor Baseline Risk Assessment and submit to EPA an Addendum with, as appropriate, updated Protectiveness Determinations, Issues, and Follow-up Actions.*	Feb-08	This was to be coordinated with the finalization of the River Corridor Baseline Risk Assessment. The RCBRA should be complete April, 2009. RL anticipates completing this action within 90 days of Ecology and EPA acceptance of the report.
Issue 2. A strategy to obtain the final records of decisions and integrate the waste sites, deep vadose zone and groundwater has not been developed and agreed upon with the regulator agencies.		
Action 2-1. Submit Draft A of the River Corridor Strategy for Achieving Final Cleanup Decision in the River Corridor. Document will identify issues for integration and provide alternatives for future discussions between the Tri-Parties on milestones for final records of decision in the River Corridor.	Nov-06	Complete
New Action 2-2. *Reach agreement between the Tri-Party Agencies on a strategy and schedule to obtain final records of decisions in the River Corridor.*	Nov-07	The Tri-Parties agreed on ROD groupings as documented in the June, 2007 IAMIT minutes. Completion of this action will be within the scope of the overall milestone negotiations underway by the Parties.
New Action 2-3. *Submit a TPA change package with new milestones for submitting RI/FS work plans and proposed plans for all operable units in the river corridor. New milestones shall require submission of RI/FS work plans and proposed plans for final actions at all of the following operable units that do not already have these documents approved: 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1. 100-FR-2. 100-HR-1. 100-HR-2, 100-HR-3, 100-IU-2, 100-IU-6, 100-KR-1, 100-KR-2, 100-KR-4, 100-NR-1, 300-FF-1, and 300-FF-2.*	Feb-08	In TPA negotiations, dependent on Action 2-2

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

Issues and Actions	Action Due Date	Status August 2008
100-K Area		
Issue 3. The southeastern (inland) extent of the chromium groundwater plume from the 116□K-2 trench, northeast of the current injection wells, has not been delineated.		
Action 3-1. Install three additional wells to further delineate the southeastern (inland) extent of the chromium groundwater plume from the 116-K-2 trench, northeast of the current injection wells. Wells installed as part of the pump-and-treat system expansion or injection well relocation may count towards this effort if appropriately located.	Aug-08	Completed-1/2008. Drilling began on 18 KR-4 pump-and-treat wells on 10/4/07. Wells K153, 154 & 163 were drilled to address this action. See Figure 3-1.
Issue 4. The small chromium plume at KW Reactor site has reached the river, as evidenced by near-shore aquifer tubes. There is currently no active remediation system in place for the small chromium plume at the KE-KW Reactor site. Therefore, construction of a new pump-and-treat system has been initiated in response to this condition.		
Action 4-1. Construct a new pump-and-treat facility to the address the chromium groundwater plume in the KW Reactor area.	Aug-08	Completed-1/2007. KW system is operating at design capacity of 100 gpm using 4 extraction/2 injection wells. See Figure 3-1.
Issue 5. Groundwater monitoring indicates that the expansion of the 100-K Area pump-and-treat extraction system has not yet achieved the remedial action objective.		
Action 5-1. Expand the 100-K Area pump-and-treat system by 378.5 liters (100 gallons) per minute to enhance remediation of the chromium plume between the 116-K-2 and the N Reactor perimeter fence.	Aug-08	The existing KR-4 pump-and-treat system operates at design capacity of 300 gpm. Construction of the K expansion process building and 2 transfer bldgs was completed in early 2007. Plant design for a 300-gpm expansion was completed 10/07; design for a 600-gpm expansion was completed in 2/08. Construction of the full 600-gpm expansion is underway; the bulk of the construction will be complete 9/08. See Figure 3-1.

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

	Issues and Actions	Action Due Date	Status August 2008
	Action 5-2. Add additional wells between the 166-K-2 trench and the N Reactor perimeter fence for groundwater extraction, and connect the additional wells to the pump-and-treat system.	Mar-07	Drilling began on 18 KR-4 pump-and-treat wells on 10/4/07, and completed 3/19/08. Wells K147, 148, and 149, along with existing wells K130 & 131 fulfill this action. The wells will be connected to the expanded KR-4 system discussed in Action 5-1. See Figure 3-1.
	100-N Area		
	Issue 6. The pump-and-treat system is ineffective and inefficient in reducing the flux of strontium-90 to the Columbia River, providing only a fraction (1:10) of the protection provided by natural radioactive decay. The degree of protection provided by hydraulic control from the pump-and-treat is unproven.		
	Action 6-1. Implement the treatability test plan for permeable reactive barrier utilizing apatite sequestration as described in the *Strontium-90 Treatability Test Plan for 100-NR-02 Groundwater Operable Unit* (DOE 2005c). Issue Treatability Test Report.	Sep-08	Two pilot injections were conducted June and September 2006. DOE used these results and bench scale testing to modify the injected solution. DOE conducted two injection campaigns in FY07, one in the Ringold formation during low water (02/28 - 03/22), and the second in the Hanford formation during high water (06/06 - 07/10). The test report for 2007 sampling will be submitted in August 2008.

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

Issues and Actions	Action Due Date	Status August 2008
Issue 7. Additional ecological data is needed to assess the interim actions prescribed within the record of decisions and to develop final cleanup standard. The extent of shoreline water quality impacts related to the diesel spill that occurred circa 1963 are not well known.		
Action 7-1. Perform additional data collection to support risk assessment, provide to Ecology previously collected data, and coordinate with River Corridor sampling efforts to collect additional pore water data from new and existing aquifer tubes along the 100-NR-2 shoreline in order to assess water quality impacts.	Sep-08	Completed as of August 2008. Samples were collected from aquifer tubes in FY07and will continue through FY08. Section 2.4.1 of the Groundwater Annual report discusses significant results. PNNL placed additional tubes to identify the dimensions of SR-90 and TPH contaminants at 100-NR-2 in 2007. The results are detailed in PNNL-16714. Additional tubes were also installed in April of 2008. Previous sample results have been provided to Ecology.

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

Issues and Actions	Action Due Date	Status August 2008
100-D Area		
Issue 8. Groundwater monitoring data indicates there is an unidentified chromium vadose source in the 100-D Area near the demolished 190-DR clear wells.		
Action 8-1. Complete a field investigation to investigate additional sources of chromium groundwater contamination within the 100-D Area. Additional geologic and geochemical investigations of the vadose zone in the 100-D Area.	Mar-09	Initial field work completed March 2007 with the drilling of 7 wells (DOE/RL-2006-74). These and selected existing wells are currently being monitored to refine the source area. Four additional boreholes have been drilled in 2008 to further refine the source area. See Figure 8-1. An investigation of the northeastern chromium plume, including vadose boreholes and wells, will take place in FY2009. PNNL is completing geochemical investigations to determine how chromium is refined on sediments. An interpretive report will be submitted to RL 9/30/08.
Issue 9. There is less than adequate data to characterize potential chromium groundwater contamination between the 100-D and 100-H Area, in the area known as the "horn."		
Action 9-1. Perform additional characterization of the aquifer for chromium contamination between the 100-D and 100-H Area, in the area known as the "horn," and evaluate the need to perform remedial action to meet the remedial action objectives of the 100-D record of decision for interim action. This issue will also be addressed in the final record of decision.	Sep-09	Drilling of 21 wells began August 2007 and was complete January 2008 (SGW-33844). Nine sets of aquifer tubes have been installed and sampled in October and November 2007. Post sampling and well monitoring continues. See Figure 9-1. A "horn" investigation report will be submitted to RL by 9/30/08.

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

	Issues and Actions	Action Due Date	Status August 2008
	Action 9-2. Incorporate the "horn" area into the 100-HR-3 interim ROD treatment zone if Action 9-1 indicates "horn" contains a groundwater chromium plume that needs immediate remediation.	Sep-09	This action is dependent on results of Action 9-1 above and will be incorporated into the Systematic Planning Process for HR-3 OU.
Issue 10. Some of the groundwater wells near the 182-D reservoir show conductivity values similar to values expected for raw water indicating some leakage from the reservoir.			
	Action 10-1. Issue direction to the operating contractor to change operations to further minimize leakage from the 182-D reservoir.	Completed	An Order was issued to prevent the use of 182-D except in the event of an emergency situation, such as fire control or loss of other safety system water supplies (Reference: JLD-02-02-2007-01 Rev02)
Issue 11. A few wells within the in situ redox manipulation barrier have shown break through much sooner than expected.			
	Action 11-1. Initiate limited iron amendments to the in situ redox manipulation barrier to evaluate whether this enhances the performance.	Sep-07	Completed August 2008. Initial laboratory tests of preferred iron compounds were found to be un-reactive. Laboratory testing to identify suitable iron compounds was completed spring 2008 and field injection occurred in August of 2008.
	Action 11-2 (unintentionally omitted from Five-Year Review Report Executive Summary). Expand groundwater pump-and-treat extraction within the 100-D Area by 378.5 liters (100 gallons) per minute to enhance remediation of the chromium plume.		DOE and Ecology have agreed that this action will be resolved through continuing improvements to the pump-and-treat system. Currently, optimization of the pump-and-treat system and new technologies (electrocoagulation) for the treatment of extracted water are being evaluated.

Updates include notes from August 2008 River Corridor Unit Managers Meeting.
Two action items (7-1, and 11-1) have been completed since last update.

Issues and Actions	Action Due Date	Status August 2008
100-H Area		
Issue 12. Groundwater samples from one deep well extending below the aquitard exceed the drinking water standard (100 mg/L) for chromium. The extent of chromium contamination in this zone is not well understood.		
Action 12-1. Perform additional characterization of the aquifer below the initial aquitard.	Sep-09	This information was identified as a data gap in the systematic planning process for HR-3. The RI/FS Work Plan for 100-H will be issued in February of 2009 with this data collection identified as a need.
300 Area		
Issue 19. Predicted attenuation of uranium contaminant concentrations in the groundwater under the 300 Area has not occurred. DOE is currently performing additional characterization and treatability testing in the evaluation of more aggressive remedial alternatives.		
Action 19-1. Complete focused feasibility study for 300-FF-5 Operable Unit to provide better characterization of the uranium contamination, develop a conceptual model, validate ecological consequences and evaluate treatment alternatives. Concurrently test injection of polyphosphate into the aquifer to immobilize the uranium and reduce the concentration of dissolved uranium. These activities support a CERCLA proposed plan.	Sep-08	Alternatives for remediation of the the uranium contamination in the 300 Area will be addressed in a Remediation Strategy Report due to EPA on 9/30/08. Complete information on implementation and costs needed to complete a Feasibility Study is not available this fiscal year.

Attachment 3

(3)

Environmental Protection Mission Completion Project
August 14, 2008

Orphan Sites Evaluations

- Awaiting regulatory comments on 100-IU-2 and 100-IU-6 summary report.
- Continuing N-Area data gap analysis.
- 100-H Area summary report submitted for RL/regulator review. Comments due back in September.
- Drafting 100-K Area summary report scheduled for RL/regulator review in September.
- Continuing data processing of orthophotography and LiDAR data in support of inter-areas evaluation. Data scheduled to be available the first week in September.

Long-Term Stewardship

- Continue preparing the draft 100-BC Area Remedial Action Report.

River Corridor Baseline Risk Assessment

- Continuing preparation of Draft B ecological risk and human health risk volumes. Regulator review of Draft B Volume 1 begins August 28.

Columbia River Remedial Investigation

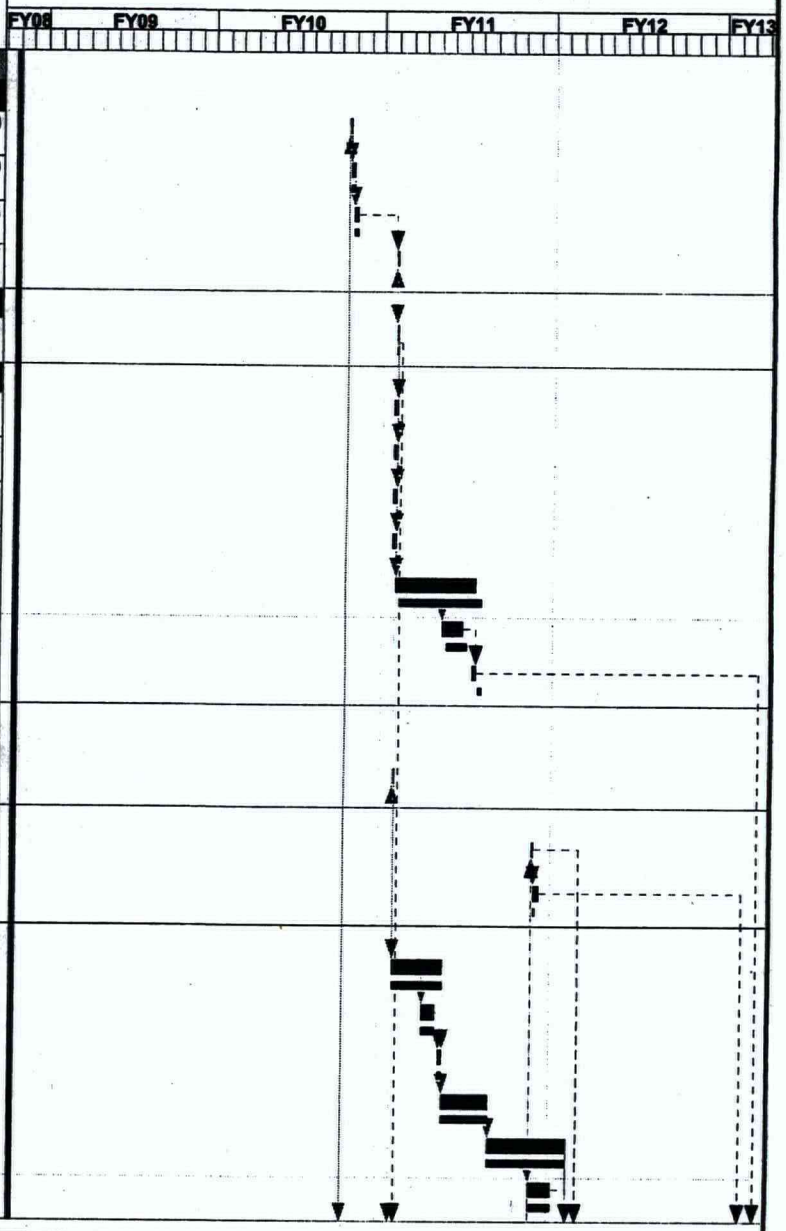
- Completed Draft A work plan review by Tri-Parties and stakeholders on August 8.
- Workshop for comment resolution was conducted the week of August 11.

Document Review Look-Ahead

Document	Regulator Review Start	Duration
100-IU-2 and 100-IU-6 Areas Orphan Sites Evaluation Report	June 16, 2008	45 days
100-H Area Orphan Sites Evaluation Report	July 29, 2008	45 days
RCBRA Draft B – Volume 1	August 28, 2008	45 days
100-K Area Orphan Sites Evaluation Report	September 2008	45 days
RCBRA Draft B – Volume 2	October 2008	45 days

Attachment 4

Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
100-B-17 Waste Site						
Excavation Process						
EXC100B7B	100-B-17 Prepare Waste Designation	4	14JUL10	20JUL10	810.74	788.90
EXC100B7C	100-B-17 Prepare Waste Profile	4	21JUL10	27JUL10	8,076.82	8,312.09
EXC100B17D	100-B-17 ERDF Review / Approve Waste Profile	4	28JUL10	03AUG10	244.27	231.76
EXC100B7A	Excavation 100-B-17 (0 BCM)	2	28OCT10	01NOV10	8,654.48	8,925.37
Loadout						
LO100B17A	Loadout 100-B-17 (0 UST)	2	28OCT10	01NOV10	0.00	0.00
Closeout Sampling						
CLOSB17A	Prepare Verification Sample WI for 100-B-17	5	25OCT10	01NOV10	10,828.68	13,696.21
CLOSB17B	RL/Regulator Review Draft A WI for 100-B-17	5	25OCT10	01NOV10	0.00	0.00
CLOSB17C	RL/Regulator Sign Rev. 0 WI for 100-B-17	5	25OCT10	01NOV10	0.00	0.00
CO10B17D	Closure Sampling & Analysis for 100-B-17	5	25OCT10	01NOV10	0.00	0.00
CO10B17E	Prepare Closure Document for 100-B-17	93	02NOV10	21APR11	0.00	20,116.99
CO10B17F	RL/Reg Review Draft A Closure Doc for 100-B-17	26	07FEB11	23MAR11	0.00	0.00
CO10B17G	RL/Reg Sign Rev. 0 Closure Doc for 100-B-17	5	14APR11	21APR11	0.00	0.00
100-B-19 Waste Site						
Loadout						
LOB19E	Add'l loadout due to failed samples	2	28OCT10	01NOV10	0.00	3,000.00
Backfill						
BKFL100B47	Backfill 100-B-19 (105 BCMs)	1	25AUG11	25AUG11	2,369.44	575.40
BF10B19B	Backfill 100-B-19 (4,575 BCMs)	6	29AUG11	07SEP11	103,198.00	25,071.00
Closeout Sampling & Documentation						
CO519G1	Prepare Verif Sample WI for 100-B-19	57	02NOV10	16FEB11	2,516.64	7,719.49
CO519G2	RL/Reg Rview Draft A WI for 100-B-19	16	04JAN11	31JAN11	0.00	0.00
CO519G3	RL/Reg Sign Rev. 0 Work Instruction for 100-B-19	5	09FEB11	16FEB11	0.00	0.00
CO519H	Closure Sampling & Analysis for 100-B-19	55	17FEB11	25MAY11	4,033.26	15,000.00
CO519H1	Prepare CVP for 100-B-19	93	26MAY11	09NOV11	4,066.52	18,943.16
CO519H2	RL/Reg Review Draft A Closure Doc for 100-B-19	26	25AUG11	11OCT11	0.00	0.00



Start Date 29AUG05
Finish Date 07JAN13
Data Date 28JUL08
Run Date 06AUG08 09:03

Early Bar
Target 1 Early Bar
Progress Bar
Critical Activity

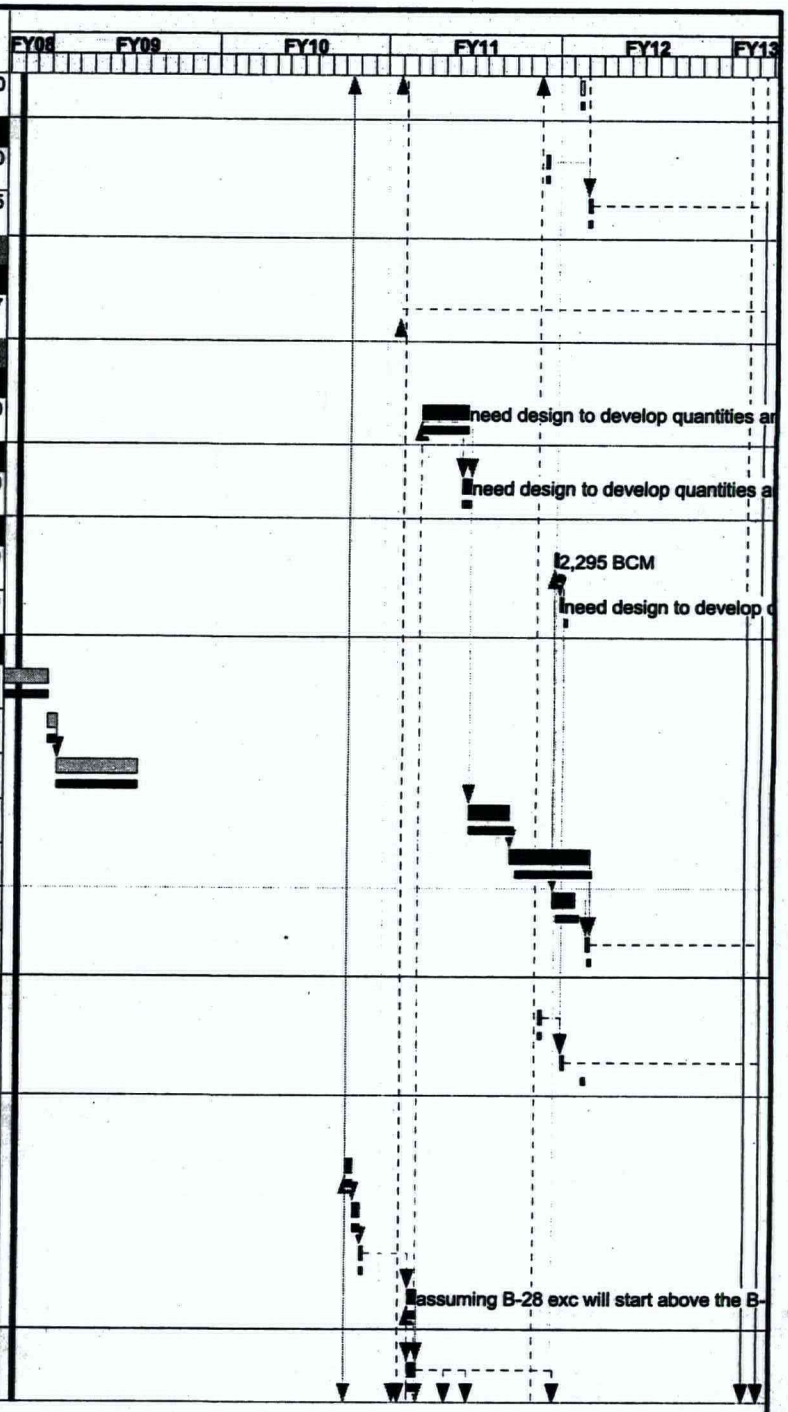
FBC8

Sheet 1 of 6

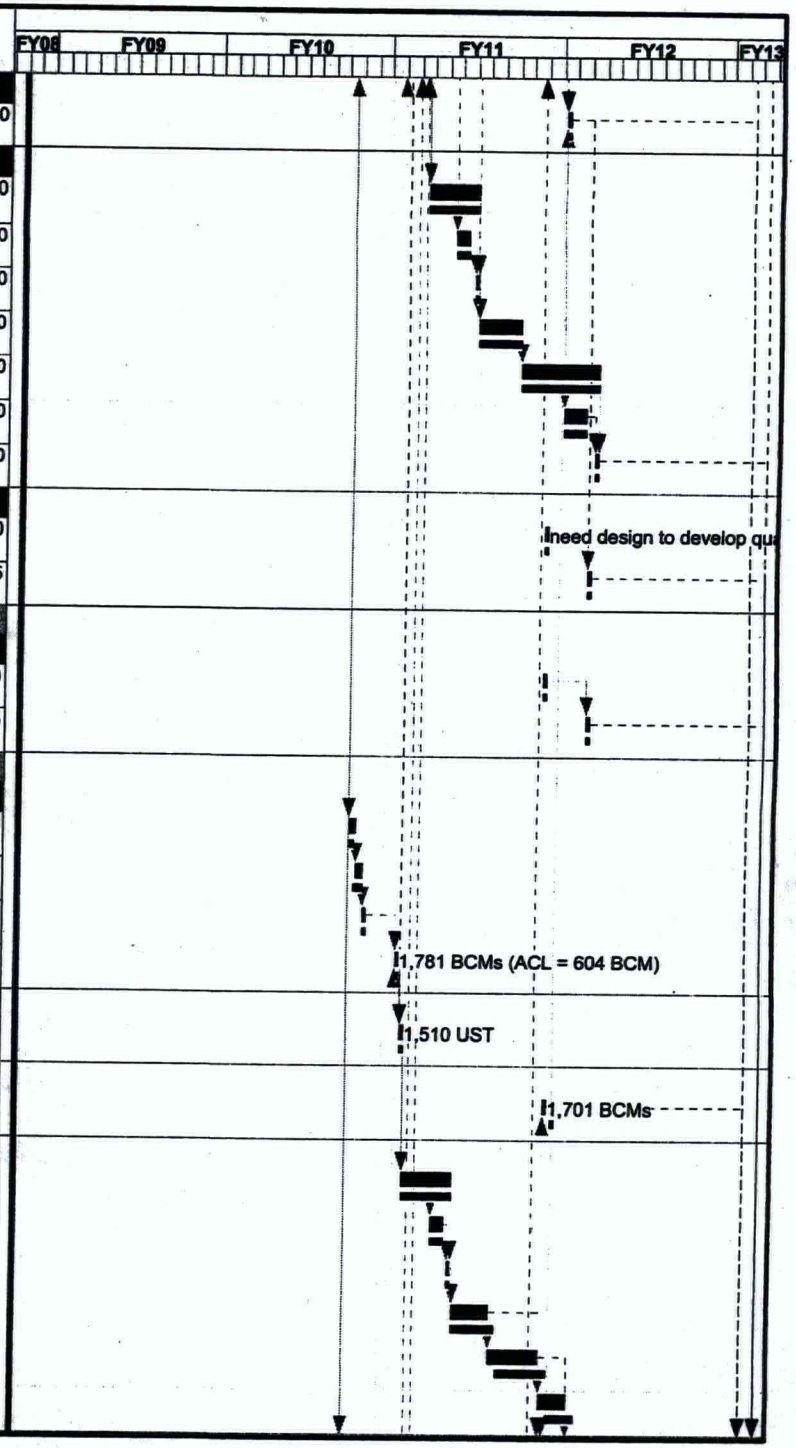
FY09 CPP 100BC FR current

Work to go

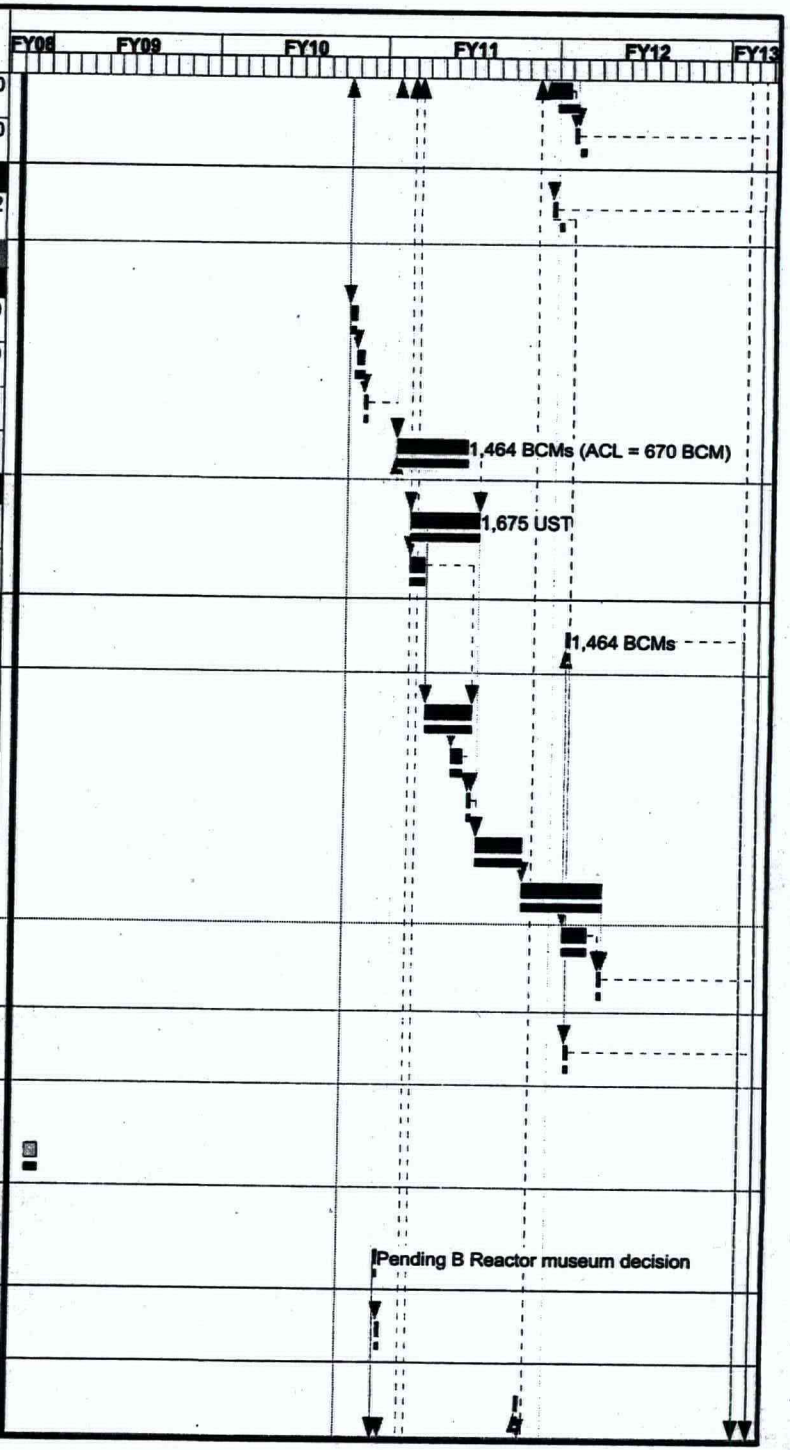
Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
CO519H3	RL/Reg Sign Rev. 0 Closure Doc for 100-B-19	5	10NOV11	17NOV11	0.00	0.00
Revegetation						
C210B19400	100-B-19 Order Revegetation Plants/Sagebrush	3	01SEP11*	07SEP11	76.71	100.00
C210B19410	100-B-19 Plant Plants/Sagebrush (0.17 acre)	5	30NOV11	07DEC11	216.09	222.85
100-B-20 Waste Site						
Loadout						
BB520B	100-B-20 Loadout (20 tons)	1	28OCT10	28OCT10	3,758.27	13,758.27
100-B-21 Waste Site						
Excavation Process						
EXB21F	Excavation 100-B-21 (12,000 BCM) CDD (:44)	54	14DEC10	23MAR11	0.00	0.00
Loadout						
LOB21C	Loadout 100-B-21 (220 UST) CDD (:44)	11	14MAR11	30MAR11	0.00	0.00
Backfill						
BF10B21B	Backfill 100-B-21 (2,295 BCM) (:3)	5	29SEP11	06OCT11	51,768.00	12,576.60
BFB21C	Backfill 100-B-21 (12,000 BCM) (:44) CDD	5	10OCT11	17OCT11	0.00	65,760.00
Closeout Sampling & Documentation						
CO521C21	Complete Work Instructions for 100-B-21:3	37	31MAR08A	30SEP08	0.00	3,622.73
CO521D2	Closure Sampling & Analysis for 100-B-21:3	12	01OCT08*	21OCT08	0.00	18,918.14
CO521E2	Prepare Closure Document for 100-B-21:3	93	22OCT08	13APR09	0.00	18,943.16
CO521D	Closure Sampling & Analysis for 100-B-21:4	51	31MAR11	29JUN11	1,988.53	27,036.40
CO521E	Prepare Closure Document for 100-B-21:4	93	30JUN11	15DEC11	3,362.42	18,943.16
CO521F	RL/Reg Review Draft A Closure Doc for 100-B-21	26	29SEP11	14NOV11	0.00	0.00
CO521G	RL/Reg Sign Rev. 0 Closure Doc for 100-B-21	5	08DEC11	15DEC11	0.00	0.00
Revegetation						
C210B21400	100-B-21 Order Revegetation Plants/Sagebrush	3	01SEP11*	07SEP11	146.40	42.50
C210B21410	100-B-21 Plant Seeds/Sagebrush (0.17 acres)	5	18OCT11	25OCT11	146.40	382.50
100-B-22 Waste Site						
Excavation Process						
EXB22A	Prepare Waste Designation	10	14JUL10	29JUL10	810.74	788.90
EXB22B	Prepare Waste Profile	10	02AUG10	17AUG10	8,076.82	8,312.09
EXB22C	ERDF Review / Approve Waste Profile	4	18AUG10	24AUG10	244.27	231.76
EXB22D	Excavation 100-B-22 (102 BCM)	11	30NOV10	16DEC10	11,210.28	11,561.16
Loadout						
LOB22A	Loadout 100-B-22 (230 UST)	11	30NOV10	16DEC10	3,989.78	4,114.66



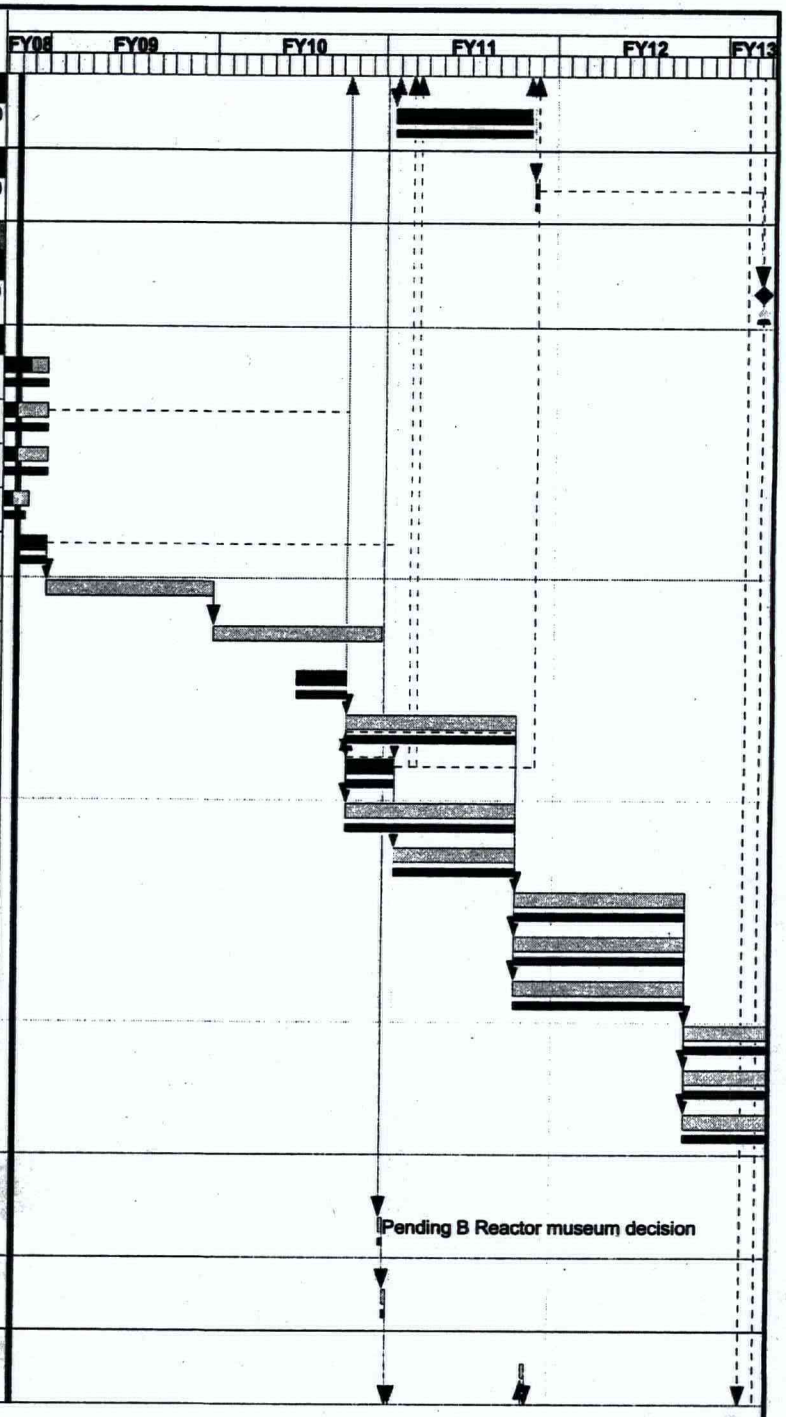
Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
Backfill						
BKFL100B67	Backfill 100-B-22 (105 BCM)	5	06OCT11	13OCT11	2,369.44	575.40
Closeout Sampling & Documentation						
COB22A1	Prepare Verification Sample WI for 100-B-22	57	20DEC10	04APR11	2,055.60	2,055.60
COB22B	RL/Regulator Review Draft A WI for 100-B-22	16	16FEB11	16MAR11	0.00	0.00
COB22C	RL/Regulator Sign Rev. 0 WI for 100-B-22	5	28MAR11	04APR11	0.00	0.00
COB22D	Closure Sampling & Analysis for 100-B-22	51	05APR11	05JUL11	1,839.22	27,036.40
COB22E	Prepare Closure Document for 100-B-22	93	06JUL11	20DEC11	3,353.86	13,353.50
COB22F	RL/Reg Review Draft A Closure Doc for 100-B-22	26	06OCT11	21NOV11	0.00	0.00
COB22G	RL/Reg Sign Rev. 0 Closure Doc for 100-B-22	5	13DEC11	20DEC11	0.00	0.00
Revegetation						
C210B22400	100-B-22 Order Revegetation Plants/Sagebrush	3	01SEP11*	07SEP11	76.71	0.00
C210B22470	100-B-22 Plant Plants/Sagebrush (0.17 acre	5	30NOV11	07DEC11	216.09	222.85
100-B-23 Waste Site						
Revegetation						
C210B23400	100-B-23 Order Revegetation Plants/Sagebrush	4	01SEP11*	08SEP11	146.40	200.00
C210B23410	100-B-23 Plant Reveg/Sagebrush (0.17 acres	4	01DEC11	07DEC11	146.40	222.85
100-B-25 Waste Site						
Excavation Process						
BB521A1	100-B-25 Prepare Waste Designation	10	14JUL10	29JUL10	0.00	788.90
BB521A2	100-B-25 Prepare Waste Profile	10	02AUG10	17AUG10	0.00	8,312.09
BB521A3	100-B-25 ERDF Review / Approve Waste Profile	4	18AUG10	24AUG10	0.00	231.76
BB521A	100-B-25 Excavation (191 BCMs)	5	28OCT10*	04NOV10	103,617.25	100,721.76
Loadout						
BB521B	100-B-25 Loadout (47 UST)	5	08NOV10	15NOV10	40,603.16	39,397.59
Backfill						
BB521C	100-B-25 Backfill (191 BCMs)	5	14SEP11	21SEP11	12,109.03	1,046.68
Closeout Sampling & Documentation						
BB521D1	Prepare Verif Sample Closeout Doc for 100-B-25	57	16NOV10	03MAR11	6,809.52	6,595.85
BB521D2	RL/Reg Rview Draft A Closeout Doc for 100-B-25	16	18JAN11	14FEB11	0.00	0.00
BB521D3	RL/Reg Sign Rev. 0 Closeout Doc for 100-B-25	5	24FEB11	03MAR11	0.00	0.00
BB521D4	Closure Sampling & Analysis for 100-B-25	47	07MAR11	25MAY11	14,612.22	14,197.18
BB521D5	Prepare Closure Document for 100-B-25 Part A	60	26MAY11	13SEP11	2,603.08	2,562.00
BB521D5A	Prepare Closure Document for 100-B-25 Part B	33	14SEP11	09NOV11	1,496.96	1,409.39



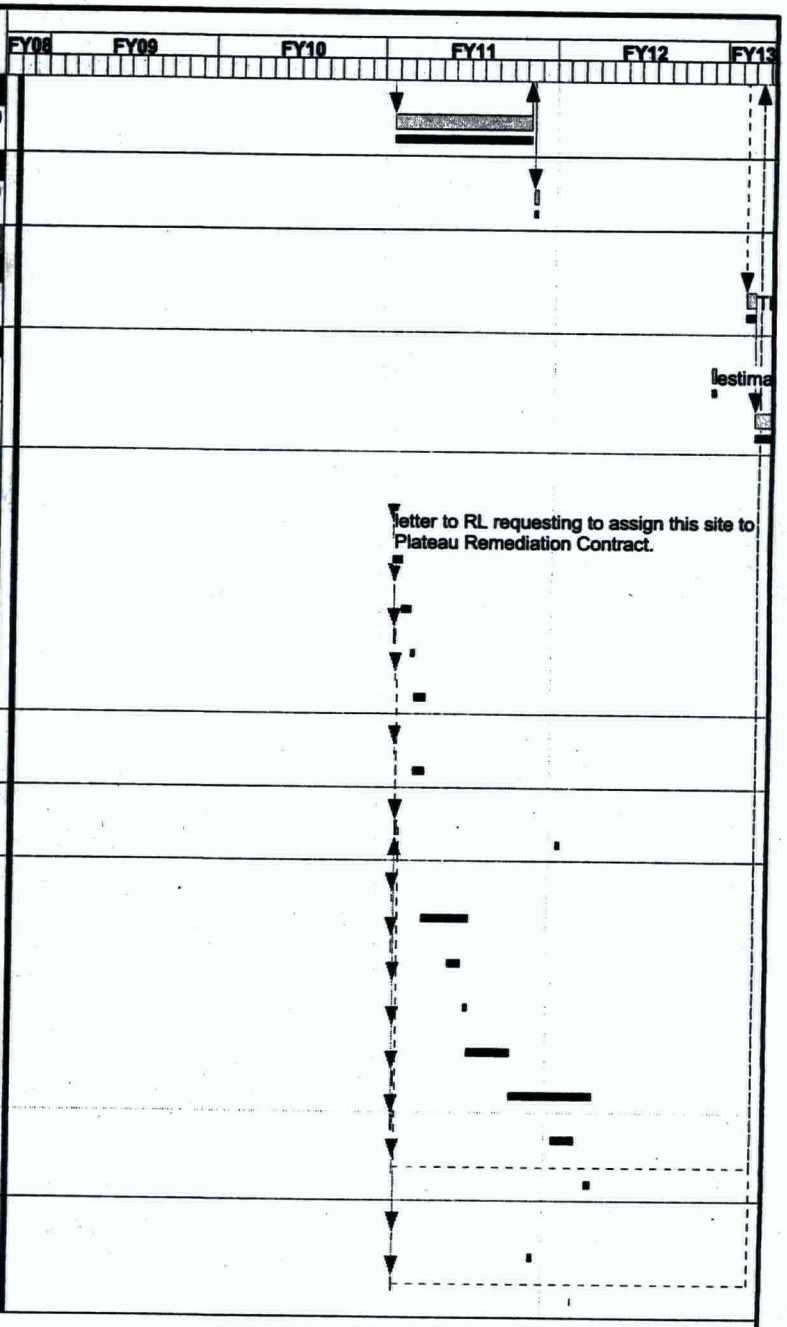
Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
BB521D6	RL/Reg Review Draft A Closure Doc for 100-B-25	26	14SEP11	27OCT11	0.00	0.00
BB521D7	RL/Reg Sign Rev. 0 Closure Doc for 100-B-25	5	02NOV11	09NOV11	0.00	0.00
Revegetation						
BB521E	100-B-25 Revegetation (2.0 acre)	5	22SEP11	29SEP11	3,604.38	3,393.52
100-B-28 Waste Site						
Excavation Process						
BB522A1	100-B-28 Prepare Waste Designation	10	14JUL10	29JUL10	0.00	788.90
BB522A2	100-B-28 Prepare Waste Profile	10	02AUG10	17AUG10	0.00	8,312.09
BB522A3	100-B-28 ERDF Review / Approve Waste Profile	4	18AUG10	24AUG10	0.00	231.76
BB522A	100-B-28 Excavation (23,443 BCMs)	.80	28OCT10*	28MAR11	417,024.34	404,823.58
Loadout						
BB522B	100-B-28 Loadout (664 UST)	80	30NOV10	25APR11	37,596.02	36,479.74
BB522B1	100-B-28 Liquid Disposal	16	30NOV10	29DEC10	0.00	0.00
Backfill						
BB522C	100-B-28 Backfill (23,443 BCMs)	5	01NOV11	08NOV11	18,855.19	128,467.64
Closeout Sampling & Documentation						
BB522D1	Prepare Verif Sample Closeout Doc for 100-B-28	57	03JAN11	12APR11	12,023.77	11,666.77
BB522D2	RL/Reg Rview Draft A Closeout Doc for 100-B-28	16	28FEB11	24MAR11	0.00	0.00
BB522D3	RL/Reg Sign Rev. 0 Closeout Doc for 100-B-28	5	05APR11	12APR11	0.00	0.00
BB522D4	Closure Sampling & Analysis for 100-B-28	55	26APR11	02AUG11	25,880.47	25,112.04
BB522D5	Prepare Closure Document for 100-B-28	93	03AUG11	23JAN12	7,239.57	7,024.62
BB522D6	RL/Reg Review Draft A Closure Doc for 100-B-28	26	01NOV11	19DEC11	0.00	0.00
BB522D7	RL/Reg Sign Rev. 0 Closure Doc for 100-B-28	5	16JAN12	23JAN12	0.00	0.00
Revegetation						
BB522E	100-B-28 Revegetation (3 acres)	5	09NOV11	16NOV11	6,567.08	6,372.09
118-B-1 Burial Ground						
Excavation Process						
BC0606A1	BC Anomaly Liquid Waste Disposal at Permafix	17	02SEP08*	30SEP08	0.00	50,000.00
118-B-8 Remaining Waste Site						
Excavation Process						
BB502A	118-B-8 Excavation (0 BCMs)	5	04OCT10*	11OCT10	0.00	0.00
Loadout						
BB502B	118-B-8 Loadout (0 UST)	5	12OCT10	19OCT10	0.00	0.00
Backfill						
BB502C	118-B-8 Backfill (0 BCMs)	5	09AUG11	16AUG11	0.00	0.00

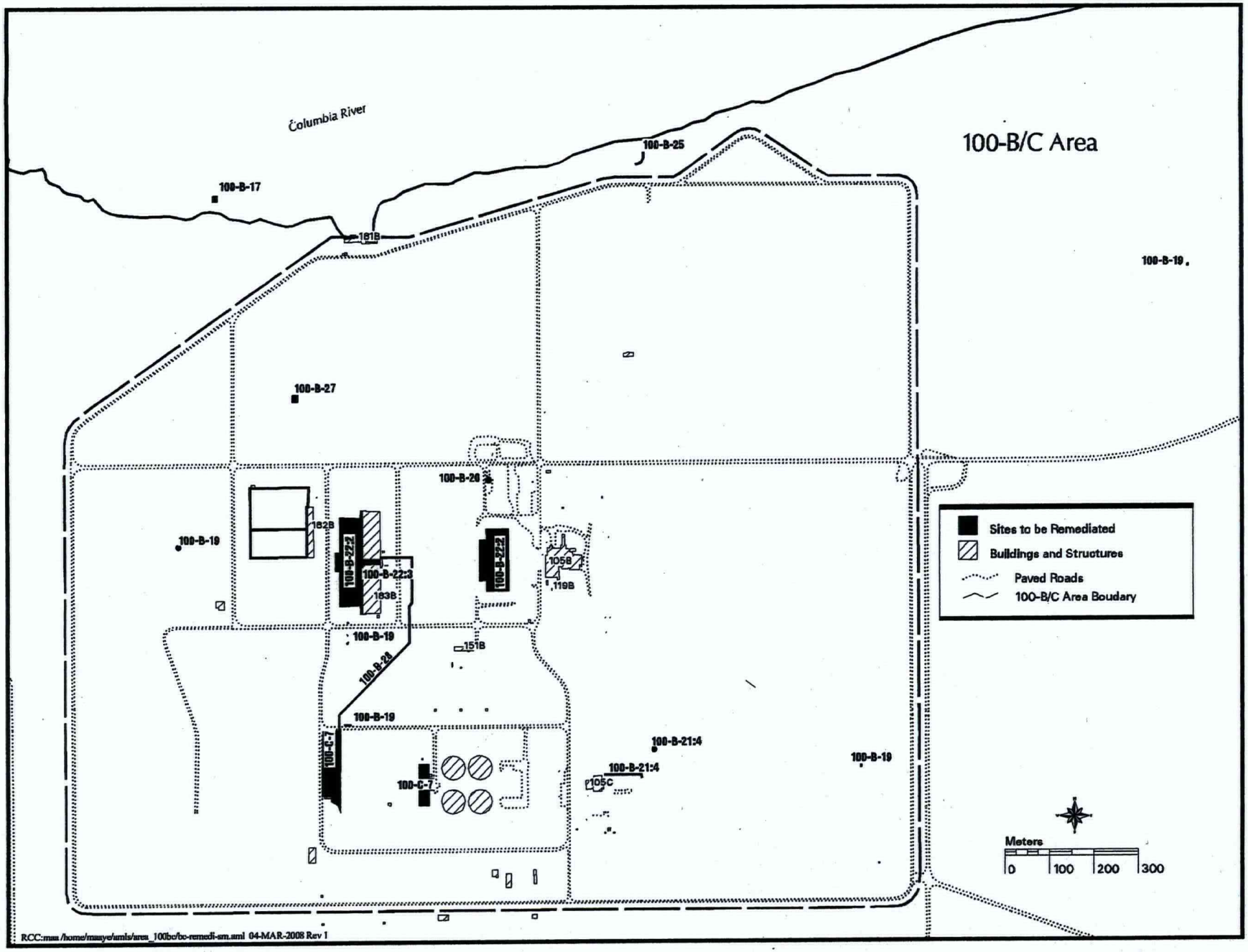


Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
Closeout Sampling & Documentation						
BB502D	118-B-8 Closeout Sampling/Documentation	159	20OCT10	08AUG11	0.00	0.00
Revegetation						
BB502E	118-B-8 Revegetation (0 acre)	5	17AUG11	24AUG11	0.00	0.00
100BC Project Support						
Fld. Rem.-100 B/C Non Site Specific Support						
C8100C7138	TPA M-16-94 Comp IRA 100 B/C	0		13DEC12	0.00	0.00
Fld. Rem.-100 B/C Non Site Specific Support						
FY08PS30	Air Monitoring	37	01OCT07A	30SEP08	9,202.13	13,274.41
B25FR108B	FR-108 Added NSS for additional quantities	37	26DEC07A	30SEP08	51,044.38	0.00
B25FR112B	FR-112 Sub OH & Fee on IPB	37	26DEC07A	30SEP08	8,885.00	0.00
FY08PS40	CPP Planning 09	15	09JUN08A	20AUG08	868.06	2,961.40
FY08PS08	Project Support FY08 (forecast)	37	28JUL08	30SEP08	17,671.33	17,385.78
B25WCH90	Project Support FY09	200	01OCT08	30SEP09	0.00	15,285.00
B25WCHA0	Project Support FY10	200	01OCT09	30SEP10	0.00	15,285.00
6512136542	RFP for remaining BC sites	60	29MAR10*	13JUL10	24,492.90	28,052.60
FY08PS50	Project Support FY11	199	14JUL10	12JUL11	733,489.56	1,621,705.16
FY08PS80	Subcontractor Award and Mob	60	14JUL10	27OCT10	0.00	200,000.00
FY09AIR100	Air Monitoring FY11	199	14JUL10	12JUL11	0.00	67,500.00
FY08PS90	Subcontractor O&O FY11	139	28OCT10	12JUL11	0.00	1,350,000.00
FY08PS60	Project Support FY12	200	13JUL11	11JUL12	733,489.55	1,641,166.16
FY09SUB100	Subcontractor O&O FY12	200	13JUL11	11JUL12	0.00	1,800,000.00
FY10AIR	Air Monitoring FY12	200	13JUL11	11JUL12	0.00	67,500.00
FY11AIR	Air Monitoring FY13	96	12JUL12	07JAN13	0.00	67,500.00
FY11PS	Project Support FY13	96	12JUL12	07JAN13	366,744.79	970,422.86
FY11SUB	Subcontractor O&O FY13	96	12JUL12	07JAN13	0.00	900,000.00
132-B-2 Remaining Waste Site						
Excavation Process						
BB506A	132-B-2 Excavation (0 BCMs)	5	04OCT10	11OCT10	0.00	0.00
Loadout						
BB506B	132-B-2 Loadout (0 UST)	5	12OCT10	19OCT10	0.00	0.00
Backfill						
BB506C	132-B-2 Backfill (0 BCMs)	5	09AUG11	16AUG11	0.00	0.00

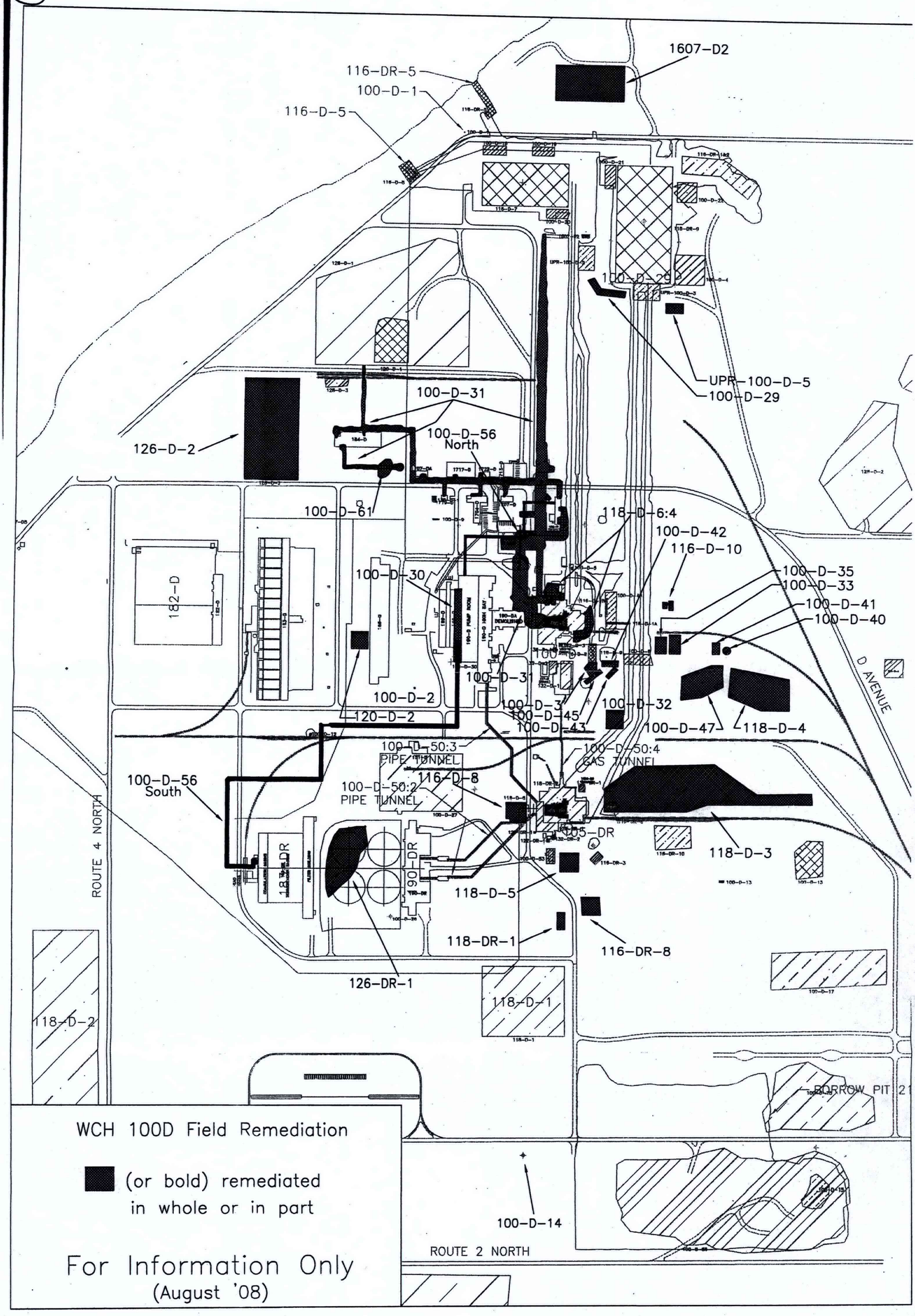


Activity ID	Activity Description	Rem Dur	Early Start	Early Finish	Target 1 BC	Cost to Complete
Closeout Sampling & Documentation						
BB506D	132-B-2 Closeout Sampling/Documentation	159	20OCT10	08AUG11	0.00	0.00
Revegetation						
BB506E	132-B-2 Revegetation (0 acre)	5	17AUG11	24AUG11	0.00	0.00
600-253 Waste Site (Pit 24)						
Backfill						
C4RPAS5462	600-253 (Pit 24) Recontouring	10	14NOV12	04DEC12	1,288.86	103,130.00
Revegetation						
C4RPAS5461	600-253 (Pit 24) Order Reveg Plants/Sagebrush	4	04SEP12	10SEP12	0.00	25,394.73
C4RPAS5471	600-253 (Pit 24) Plant Reveg/Sagebrush (40 ac)	16	05DEC12	07JAN13	0.00	86,968.26
1607-B5 Waste Site						
Excavation Process						
CMB05282	Prepare Waste Designation 1607-B5	1	28OCT10*	28OCT10	810.74	788.90
CMB05284	Prepare Waste Profile 1607-B5	1	01NOV10	01NOV10	8,076.82	8,312.09
CMB05285	ERDF Review / Approve Waste Profile 1607-B5	1	02NOV10	02NOV10	244.27	231.76
BKFL100B87	Excavation 1607-B5 (861 BCM)	1	03NOV10	03NOV10	40,357.66	12,915.00
Loadout						
BKFL100B97	Loadout 1607-B5 (453 UST)	1	03NOV10	03NOV10	7,979.57	9,471.81
Backfill						
BKFL100B77	Backfill 1607-B5 (861 BCM)	1	10NOV10	10NOV10	10,797.43	4,718.28
Closeout Sampling & Documentation						
AA1607B5	Prepare Verification Sample WI for 1607-B5	1	04NOV10	04NOV10	41,990.49	13,696.21
AB1607B5	RL/Regulator Review Draft A WI for 1607-B5	1	04NOV10	04NOV10	0.00	0.00
AC1607B5	RL/Regulator Sign Rev. 0 WI for 1607-B5	1	08NOV10	08NOV10	0.00	0.00
CO607B5D	Closure Sampling & Analysis for 1607-B5	1	09NOV10	09NOV10	0.00	0.00
CO607B5E	Prepare Closure Document for 1607-B5	1	10NOV10	10NOV10	0.00	20,116.99
CO607B5F	RL/Reg Review Draft A Closure Doc for 1607-B5	1	10NOV10	10NOV10	0.00	0.00
CO607B5G	RL/Reg Sign Rev. 0 Closure Doc for 1607-B5	1	11NOV10	11NOV10	0.00	0.00
Revegetation						
RB1020RM	Reveg 1607-B5 Procure	1	15NOV10	15NOV10	344.24	355.01
RB1030RM	Reveg 1607-B5 Plant (0.79 acre)	1	16NOV10	16NOV10	969.67	1,975.00




100-B/C Area
Columbia River
100-B-17
100-B-25
100-B-19
100-B-27
100-B-20
100-B-22:2
100-B-22:3
100-B-22:2
100-B-19
100-B-28
100-B-19
100-B-19
100-C-7
100-C-7
100-B-21:4
100-B-21:4
100-B-19
182B
183B
1518
1058
1198
1518
105C
Sites to be Remediated
Buildings and Structures
Paved Roads
100-B/C Area Boudary
Meters
0
100
200
300
RCC:mss /home/mssye/smls/sres_100bc/bc-remedi-sm.aml 04-MAR-2008 Rev 1

Attachment 5


1607-D2
116-DR-5
100-D-1
116-D-5
100-D-29
UPR-100-D-5
100-D-29
100-D-31
126-D-2
100-D-56
North
100-D-61
118-D-6:4
100-D-42
116-D-10
100-D-30
100-D-35
100-D-33
100-D-41
100-D-40
182-D
D AVENUE
100-D-2
100-D-3
120-D-2
100-D-45
100-D-43
100-D-32
100-D-47
118-D-4
100-D-50:3
PIPE TUNNEL
100-D-50:4
GAS TUNNEL
100-D-56
South
116-D-8
100-D-50:2
PIPE TUNNEL
ROUTE 4 NORTH
118-D-3
118-D-5
118-DR-1
116-DR-8
126-DR-1
118-D-1
118-D-2
BORROW PIT 2
100-D-14
ROUTE 2 NORTH
WCH 100D Field Remediation
(or bold) remediated
in whole or in part
For Information Only
(August '08)

Attachment 6

August 6, 2008 **100-D-31 Pipelines**

100-D-31 Pipelines

The 100-D-31 pipelines waste site consists of underground pipelines and the 100-D Process Sewer System. Pipelines carried water treatment waste and runoff to outfall 116-D-5 until 1977. The process sewer drainage was diverted solely to the 120-D-1 Ponds from 1977 to 1994. Site **does not** include process sewer for reactor facilities or reactor process effluent. Contaminants of potential concern are chromium, mercury, and 'undetermined' radionuclides and organic chemicals.

Interim ROD

The 1999 Remaining Sites Interim ROD listed the 100-D-31 (Process Sewer System) as a remaining site to remove/treat/dispose (Table A-1). **Estimated cost of site remediation was $2,386,452**

WCH Contract

The WCH Contract J-1 Table includes 100-D-31 as an RTD waste site. WCH has already begun work on this waste site and has removed several shallow sections of the pipeline. Actual costs to date are below $1 million. WCH will continue this RTD until its scheduled completion in the first/second quarter of FY 2010.

Today's Costs

The integrated project baseline (IPB) estimates that total RTD costs for 100-D-31 will exceed **$12 million** – significantly higher than the original cost $2.3 million estimate in the 1999 interim ROD. The estimate is higher due to more accurate and detailed site information being incorporated into remediation design. The pipeline is divided into 12 sections. Sections 100-D-31:7 and 100-D-31:9 are the deepest sections and likely cost drivers in the overall RTD. For example, 100-D-31:7 reaches a depth of 45 feet in some places. In the near future WCH will begin excavating overburden from the deepest pipeline section 100-D-31:7.

Questions

Is an ESD or ROD amendment required for this remedial action due to its significant cost increase?

Should other alternatives be evaluated for certain sections (deeper sections) of 100-D-31?

Should the more expensive pipeline sections be scheduled further out? Are there higher priority sites in/out of the J-1 contract table to RTD ahead of this pipeline?

Attachment 7

(78)

Buckmaster, Mark A

From: Vanni, Jean (ECY) [jeva461@ECY.WA.GOV]
Sent: Thursday, July 10, 2008 2:34 PM
To: Buckmaster, Mark A
Cc: Smith-Jackson, Noe'l
Subject: RE: 100 D Water Agreement

That's what I remembered. Noe'l doesn't have any concerns. You have Ecology's concurrence to use this water for on-site dust suppression. Also, please get this noted in the UMM minutes. Thanks, Jean

---

From: Buckmaster, Mark A [mailto:MABUCKMA@wch-rcc.com]
Sent: Thursday, July 10, 2008 1:51 PM
To: Vanni, Jean (ECY)
Subject: RE: 100 D Water Agreement

I did not send an email. We just discussed this yesterday during your site visit and i provided you the Cr+6 data and the pipeline drawing.

From: Vanni, Jean (ECY) [mailto:jeva461@ECY.WA.GOV]
Sent: Thursday, July 10, 2008 1:41 PM
To: Buckmaster, Mark A
Subject: RE: 100 D Water Agreement

Mark, you didn't send me an email on this did you? I believe you called and later just handed me the info & we discussed it. thanks, Jean

---

From: Buckmaster, Mark A [mailto:MABUCKMA@wch-rcc.com]
Sent: Thursday, July 10, 2008 12:56 PM
To: Vanni, Jean (ECY)
Cc: Post, Thomas C; Golden, James W
Subject: 100 D Water Agreement

Jean

This is to document our meeting yesterday regarding the fire protection water encoutered during remediaiton of the 100-D-31:3 pipeline.

Per #3 in our water agreement below: 1. Engineered drawings were reviewed (drawing provided to you yesterday) and indicate the pipeline is a fire protection pipeline; 2. During our site visit of this area, two fire hydraunts and valves were visible on the surface that connect to the pipeline; 3. Field instruments for metals, rad and VOC's were non detects; and 4. A water sample was collected and anylzed for Hex. Chromium (data provided to you yesterday).

As a result of meeting the requirements in the water agreement, WCH plans to use this water as dust suppression water.

Please provide your concurrence.

Mark

-----Original Message-----
From: Price, John (ECY) [mailto:Jpri461@ECY.WA.GOV]
Sent: Monday, October 15, 2007 11:02 AM
To: Buckmaster, Mark A
Cc: Vanni, Jean; Jones, Mandy E; Zeisloft, Jamie
Subject: Water agreement

Mark, this is the revised agreement for use of excess water. This reflects some changes from what I originally sent to you, but should still be very practical with you.

If you have any concerns, please share them with Jean.

Let me (or Jean) know if you're okay with these. We can probably still get these into the October UMM minutes, even though we didn't talk about it at the meeting.

(1) WCH is currently working west of the 183-D sedimentation basin. WCH accumulated and tested 130 gallons of uncontaminated water from a 36" clean water line. Testing shows exceedance of secondary drinking water standards (Fe, Mn, Al), but no exceedance of primary standards. Ecology approves of re-use of that water for dust suppression.

(2) There is a 6" clean water line by the DR reactor. Ecology needs to see hexavalent chromium results, and whatever radiological results WCH has, to approve of re-use of the water for dust suppression in the in-process cells at the burial ground.

(3) WCH expects to encounter many clean water pipes in the northern zone (along Palouse Avenue) of the D/DR reactor area. WCH will follow a standard protocol to open and check the lines for water. They do field screening for volatile organics and radioactivity. WCH expects these to be clean water pipes based on (a) review of engineering drawings, (b)the size and construction of the lines, and (c) presence of nearby

clean water appliances like fire hydrants. Waste lines in that area are much deeper (8 - 9 meters below ground). To have confidence in this approach, Ecology requires field testing for Hexavalent Chromium using HACH field test methods/pocket colorimeter on all pipe waters and XRF on any spills on soils. These results will determine the need for further sampling.

Additionally, When WCH can't positively identify clean water lines using these attributes, they will do 'full suite' sampling of the water.

If they encounter a "nominal amount" of water (tens to a few hundred gallons), and confirm it to be clean, they will re-use the water for dust suppression in active remedial excavation areas.

WCH will not over-apply re-used water for dust suppression. In other words, they will not increase their application rate above their normal application rate. However, this should not be a concern because of the requirement for hundreds to a couple thousand gallons per day, depending on the season and what work is going on.

Buckmaster, Mark A

From: Vanni, Jean (ECY) [jeva461@ECY.WA.GOV]
Sent: Wednesday, July 30, 2008 12:34 PM
To: Buckmaster, Mark A
Cc: Smith-Jackson, Noe'l; Price, John; Jones, Mandy E
Subject: FW: 100 D Water Agreement (Pipeline #2) (Approved for Dust Suppression, NSJ)

Mark, Ecology supports using water from the second pipeline encountered during remediation of the 100-D-31 pipeline as dust suppressant per our previous water agreement. Please have this captured in the 100/300 Area UMM minutes. Thank you, Jean

---

From: Smith-Jackson, Noe'l (ECY)
Sent: Wednesday, July 30, 2008 11:03 AM
To: Vanni, Jean (ECY)
Cc: Smith-Jackson, Noe'l (ECY)
Subject: RE: 100 D Water Agreement (Pipeline #2) (Approved for Dust Suppression, NSJ)

Jean-

This water from the 6 inch fire protection pipeline associated with the 100-D-31:3 pipeline is not shown to be contaminated with hexavalent chromium. The water may be used for dust suppression purposes.

Thanks,
Noe'l

From: Vanni, Jean (ECY)
Sent: Monday, July 28, 2008 9:51 AM
To: Smith-Jackson, Noe'l (ECY)
Subject: FW: 100 D Water Agreement (Pipeline #2)

Noe'l please add this to your review schedule. Thanks, Jean

From: Buckmaster, Mark A [mailto:MABUCKMA@wch-rcc.com]
Sent: Monday, July 28, 2008 9:48 AM
To: Vanni, Jean (ECY)
Cc: Post, Thomas C; Golden, James W
Subject: 100 D Water Agreement (Pipeline #2)

Jean

Attached is hex chrome data associated with a second water line water encoutered during remedialton of the 100-D-31:3 pipeline. The pipeline is adjacent to the 10 inch pipeline previously sampled and approved for use as dust suppression.

Per #3 in our water agreement below: 1. Engineered drawings were reviewed (attached) and indicate the pipeline is a 6 inch fire protection pipeline; 2. The pipeline was hot tapped and a water sample was collected and anylzed for Hex. Chromium (attached); and 3. Field instruments for rad and VOC's were non detects during the sampling.

As a result of meeting the requirements in the water agreement, WCH plans to use this water as dust suppression water.

Please provide your concurrence.

Mark

<<100D Water Pipelline.pdf>>

-----Original Message-----
From: Price, John (ECY) [mailto:Jpri461@ECY.WA.GOV]
Sent: Monday, October 15, 2007 11:02 AM
To: Buckmaster, Mark A
Cc: Vanni, Jean; Jones, Mandy E; Zeisloft, Jamie
Subject: Water agreement

Mark, this is the revised agreement for use of excess water. This reflects some changes from what I originally sent to you, but should still be very practical with you.

If you have any concerns, please share them with Jean.

Let me (or Jean) know if you're okay with these. We can probably still get these into the October UMM minutes, even though we didn't talk about it at the meeting.

(1) WCH is currently working west of the 183-D sedimentation basin. WCH accumulated and tested 130 gallons of uncontaminated water from a 36" clean water line. Testing shows exceedance of secondary drinking water standards (Fe, Mn, Al), but no exceedance of primary standards. Ecology approves of re-use of that water for dust suppression.

(2) There is a 6" clean water line by the DR reactor. Ecology needs to see hexavalent chromium results, and whatever radiological results WCH has, to approve of re-use of the water for dust suppression in the in-process cells at the burial ground.

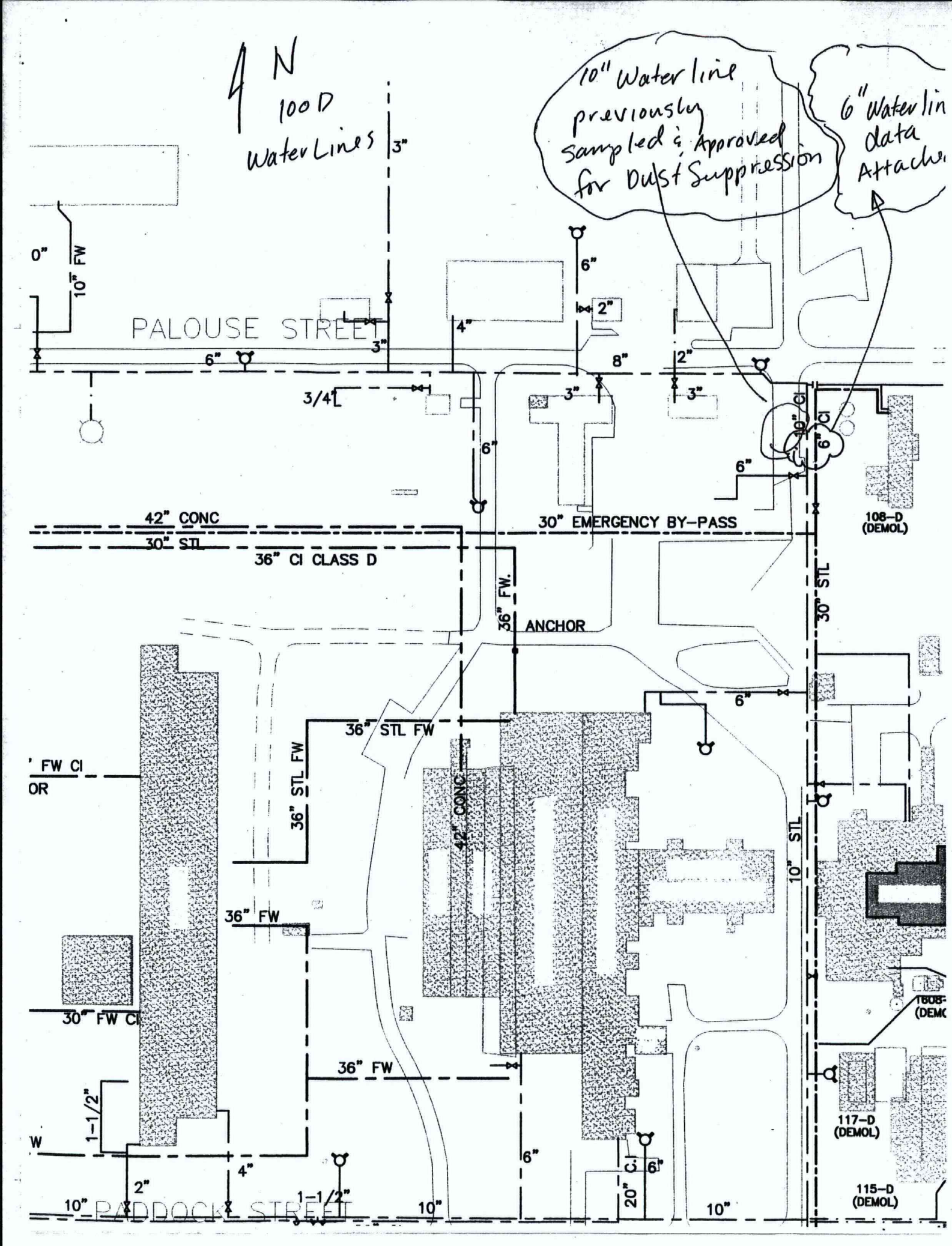
(3) WCH expects to encounter many clean water pipes in the northern zone (along Palouse Avenue) of the D/DR reactor area. WCH will follow a

standard protocol to open and check the lines for water. They do field screening for volatile organics and radioactivity. WCH expects these to be clean water pipes based on (a) review of engineering drawings, (b) the size and construction of the lines, and (c) presence of nearby clean water appliances like fire hydrants. Waste lines in that area are much deeper (8 - 9 meters below ground). To have confidence in this approach, Ecology requires field testing for Hexavalent Chromium using HACH field test methods/pocket colorimeter on all pipe waters and XRF on any spills on soils. These results will determine the need for further sampling.

Additionally, When WCH can't positively identify clean water lines using these attributes, they will do 'full suite' sampling of the water.

If they encounter a "nominal amount" of water (tens to a few hundred gallons), and confirm it to be clean, they will re-use the water for dust suppression in active remedial excavation areas.

WCH will not over-apply re-used water for dust suppression. In other words, they will not increase their application rate above their normal application rate. However, this should not be a concern because of the requirement for hundreds to a couple thousand gallons per day, depending on the season and what work is going on.


4 N
100 D
Water Lines
10" Water line previously sampled & Approved for Dust Suppression
6" Water lin data Attache
PALOUSE STREET
PADDOCK STREET
42" CONC
30" STL
36" CI CLASS D
30" EMERGENCY BY-PASS
36" FW.
ANCHOR
36" STL FW
36" STL FW
42" CONC
36" FW
30" FW CI
36" FW
10" STL
30" STL
108-D (DEMOL)
117-D (DEMOL)
115-D (DEMOL)
10" FW
3/4"
10" CI
6" CI
20" CI
1-1/2"
1-1/2"

Attachment 8

Buckmaster, Mark A

From: Jones, Mandy (ECY) [mjon461@ECY.WA.GOV]
Sent: Monday, July 14, 2008 11:31 AM
To: Buckmaster, Mark A
Cc: Cearlock, Christopher S; Vanni, Jean; Post, Thomas C; Golden, James W
Subject: RE: Question on potential H area orphan site

Mark,

Based on the information provided below, please proceed with the construction of the sorting cells.

When you get to the location where the potential orphan site (100-H-39) is located could you please provide us an update on what you find.

As you mentioned below, we do appreciate knowing if you have found any anomalies.

Thank you,
Mandy

From: Cearlock, Christopher S [mailto:cscearlo@wch-rcc.com]
Sent: Monday, July 14, 2008 11:06 AM
To: Jones, Mandy (ECY)
Cc: Buckmaster, Mark A
Subject: RE: Question on potential H area orphan site

Mandy,

It appears that this one of 4 potential locations for the orphan site 100-H-39 "Thimble Pit." However, in talking with Mark Buckmaster it appears that they have performed GPR at this location and did not detect any anomalies.

Let me know if you need more info.

Chris

From: Jones, Mandy (ECY) [mailto:mjon461@ECY.WA.GOV]
Sent: Monday, July 14, 2008 9:50 AM
To: Cearlock, Christopher S
Cc: Vanni, Jean
Subject: FW: Question on potential H area orphan site

Chris, please see below. Have you been able to gather any information on the potential waste site (orphan site)?

Thanks,
Mandy

From: Buckmaster, Mark A [mailto:MABUCKMA@wch-rcc.com]
Sent: Monday, July 14, 2008 9:22 AM
To: Jones, Mandy (ECY); Vanni, Jean (ECY)
Cc: Post, Thomas C; Golden, James W
Subject: RE: Question on potential H area orphan site

Mandy

Just a status on the sorting cells. We plan on starting construction of the cell later today. We will stop if we run into any anomalies. Please let me know if you have any concerns.

mark

From: Jones, Mandy (ECY) [mailto:mjon461@ECY.WA.GOV]
Sent: Thursday, July 10, 2008 4:15 PM
To: Cearlock, Christopher S
Cc: Vanni, Jean; Shea, Jacqueline (ECY); Buckmaster, Mark A
Subject: Question on potential H area orphan site

Chris,

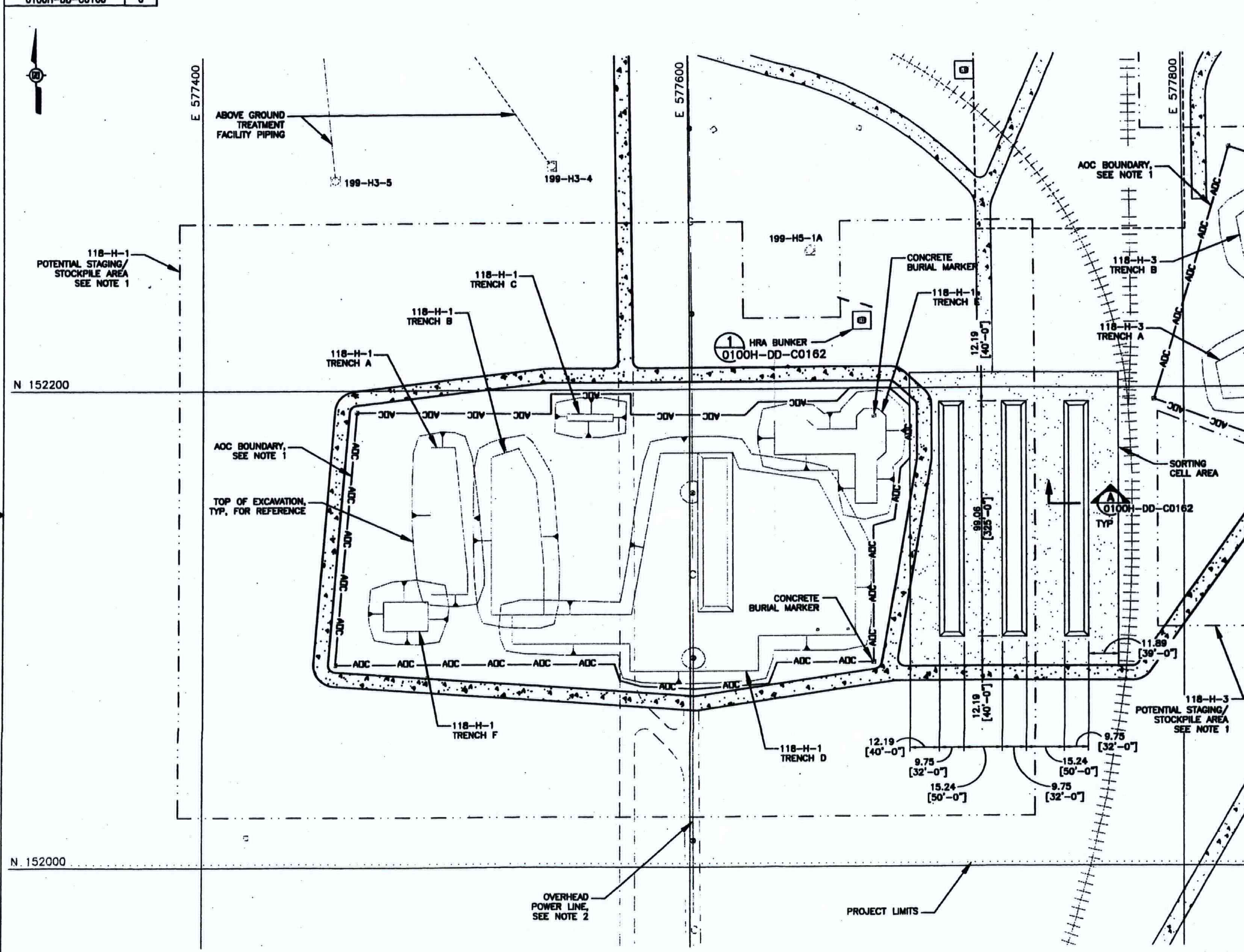
Ecology is in the process of approving the location of the sorting cells for 118-H-1, but we have a question that needs to be answered prior to our approval.

Mark Buckmaster would like to place the sorting cells to the east of 118-H-1 and west of the railroad tracks at 100-H Area. He stated in previous messages; " A potential waste in this area was identified by the orphan site investigation for H but no physical evidence was determined. I was told that based on an interview of an "old timer" there may have been something buried near the RR tracks."

Could you please confirm or deny for us that there is a potential orphan site located in this area? And provide us the number of the orphan site, if it exists? This information will allow us to move forward with our approval and guidance on placement of the sorting cells.

Thank you!
Mandy Jones
Washington State Department of Ecology
Nuclear Waste Program - Clean Up Section
3100 Port of Benton Blvd, Richland
Phone - 372-7916, Cell - 531-2165, Fax - 372-7971

DRAWING NO.	REV. NO.
0100H-DD-C0160	0



NOTES

1. STAGING OF MATERIAL SHALL OCCUR WITHIN THE AOC/ WASTE SITE BOUNDARY UNLESS DIRECTED BY THE CONTRACTOR. STAGING OF MATERIAL OUTSIDE OF THE AOC/WASTE SITE BOUNDARY, SHALL HAVE PRIOR APPROVAL IN WRITING BY THE CONTRACTOR.
2. SUBCONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS WHEN WORKING IN PROXIMITY TO ENERGIZED POWER LINES. ALL REASONABLE METHODS TO PROTECT EXISTING POWER POLES SHALL BE TAKEN BEFORE RE-ROUTING POWER LINES AND REMOVAL OF POLES WILL BE REQUIRED.
3. SUBCONTRACTOR SHALL ERECT A HRA FENCE 15M OUTSIDE OF THE AOC BOUNDARY ACCORDING TO THE SUBCONTRACT DOCUMENTS.

0 — 6/05/08 — ISSUED FOR CONSTRUCTION — DJF

SCALE AS SHOWN

U.S. DEPARTMENT OF ENERGY
DOE RICHLAND OPERATIONS OFFICE
RIVER CORRIDOR CLOSURE CONTRACT

WASHINGTON CLOSURE HANFORD LLC. RICHLAND, WASHINGTON

FE&C Fluor Engineers & Constructors

MEIER Enterprises www.meierinc.com

100 H AREA
100 H BURIAL GROUNDS AND REMAINING SITES
118-H-1 / 118-H-3 AREA SORTING CELL PLAN

WCH JOB NO.	DOE CONTRACT NO.	CADD FILENAME
14655	DE-AC06-05RL-14655	1HDC0160.DWG

TASK	DRAWING NO.	REV. NO.
100H	0100H-DD-C0160	0

RECORD INFORMATION

RECORD NO.	BLDG NO.	INDEX NO.
H-1-90390 SHT01	100H	0110

River Corridor Contract — Dedicated WCH Excellence

Attachment 9

(8)
9

Unit Managers Meeting
August 14, 2008

REMEDIATION OF WASTE SITES 600-109 AND 600-202: STATUS OF CULTURAL RESOURCES COMPONENT

ACCOMPLISHMENTS:

- Site walkdowns conducted with RL, NPS, WCH, PNNL, and Tribal representatives – July 7, 2008
- Working meeting to begin development of mitigation strategy held with RL, NPS, WCH, PNNL, and Tribal representatives – July 8, 2008
- *Determination of Adverse Effect Finding* sent to WCH Project – July 30, 2008
- Preliminary Scope, Schedule, Budget sent for FY09 and FY10 CPP planning – July 30, 2008
- Draft Research Design/Mitigation Plan received from NPS – August 8, 2008

90 DAY LOOK AHEAD:

- RL to send the draft Research Design/Mitigation Plan for external review
- Research Design/Mitigation Plan finalized
- Archaeological data recovery excavation begins ca. mid-October

NOTE: Remedial actions for either of these waste sites can not begin until all required cultural resource activities necessary to comply with the National Historic Preservation Act have concluded, and a notification of cultural clearance has been issued by the WCH Cultural Resources Supervisor

Point of Contact:
Thomas E. Marceau

Attachment 10

(19)

0591191

Waste Site: 600-111	**BACKFILL CONCURRENCE CHECKLIST** (Concurrence to Proceed with Waste Site Backfill Operations)	WIDS No: 600-111

This checklist is a summary of cleanup verification results for the 600-111, P-11 Critical Mass Laboratory Crib, waste site. The checklist is intended as an agreement allowing the RCCC subcontractor to backfill the excavation prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Radionuclides were not COPCs at this site.	Yes	WCH 2008
Direct Exposure – Nonradionuclides	1. Attain individual COPC RAGs.	1. All individual COPC concentrations are below the RAGS.	Yes	A, C
Meet Nonradionuclide Risk Requirements	1. Hazard quotient of less than 1 for noncarcinogens.	1. The hazard quotients for individual nonradionuclide COPCs are less than 1.	YES	B
	2. Cumulative hazard quotient of less than 1 for noncarcinogens.	2. The cumulative hazard quotient is less than 1.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk values for individual nonradionuclide COPCs are less than 1×10^{-6}.		B
	4. Attain a total excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Total excess cancer risk is less than 1×10^{-5}.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGS.	1. Radionuclides were not COPCs at this site.	Yes	WCH 2008
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.	2. Radionuclides were not COPCs at this site.		WCH 2008
	3. Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or $1/25^{th}$ of the derived concentration guide for DOE Order 5400.5.	3. Radionuclides were not COPCs at this site.		WCH 2008
	4. Meet total uranium standard of 21.2 pCi/L.	4. Radionuclides were not COPCs at this site.		WCH 2008
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater and river cleanup requirements.	1. Residual concentrations of barium, copper, and lead exceeded the soil RAG for the protection of groundwater and/or the Columbia River. However, it is predicted that these constituents will not migrate to groundwater (and thus the Columbia River) at concentrations exceeding groundwater or river criteria within 1,000 years. Therefore, residual concentrations achieve the remedial action objectives for groundwater and river protection.	Yes	A, C
Other Supporting Information				

All citations above and references on attached sheet are on record with Washington Closure Hanford, Inc., Document Control.
Above noted regulatory requirements have been attained.

[signature]	5/29/08	[signature]	5/29/08	[signature]	6/4/08
WCH Project Manager	Date	WCH Project Engineer	Date	DOE Project Manager	Date

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

Larry Gadbois	6-4-08	N/A	N/A
EPA Project Manager	Date	Ecology Project Manager	Date

Attachment 11

(11)(0)

Mission Completion
Sample Design and Cleanup Verification
for the August 2008 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
100-BC			
	RL/Regulator Review Draft A WI for 100-B-21:3	7/31/2008 (A)	9/13/2008
	RL/Regulator Sign Rev. 0 WI for 100-B-21:3	9/8/2008	9/13/2008
100-D			
	Regulator Review Draft A Closure Document for 100-D-3	4/17/2008 (A)	8/21/2008
	RL/Regulator Review Draft A Closure Document for 100-D-56 North	7/22/2008 (A)	9/4/2008
	RL/Regulator Sign Rev. 0 WI for 120-D-2	8/11/2008	8/18/2008
	RL/Regulator Review Draft A WI for 100-D-47	8/11/2008	9/24/2008
	RL/Regulator Review Draft A WI for 118-D-4	8/11/2008	9/24/2008
	RL/Regulator Sign Rev. 0 WI for 100-D-31:6	8/18/2008	8/25/2008
	RL/Regulator Review Draft A WI for 100-D-56 South	8/18/2008	10/1/2008
	RL/Regulator Sign Rev. 0 Closure Document for 100-D-56 North	8/28/2008	9/4/2008
	RL/Regulator Review Draft A WI for 116-D-10	9/2/2008	10/16/2008
	RL/Regulator Review Draft A WI for UPR-100-D-5	9/2/2008	10/16/2008
	RL/Regulator Review Draft A Closure Document for 126-DR-1	9/8/2008	10/22/2008
	RL/Regulator Sign Rev. 0 Closure Document for 100-D-3	9/9/2008	9/16/2008
	RL/Regulator Review Draft A WI for 100-D-29	9/9/2008	10/23/2008
	RL/Regulator Sign Rev. 0 WI for 118-D-4	9/17/2008	9/24/2008
	RL/Regulator Sign Rev. 0 WI for 100-D-47	9/23/2008	9/30/2008
	RL/Regulator Review Draft A Closure Document for 100-D-61	10/9/2008	11/22/2008
	RL/Regulator Sign Rev. 0 WI for 100-D-56 South	10/16/2008	10/22/2008
	RL/Regulator Sign Rev. 0 WI for UPR-100-D-5	11/3/2008	11/6/2008
	RL Regulator Sign Rev. 0 WI for 116-D-10	11/3/2008	11/6/2008
	RL/Regulator Sign Rev. 0 Closure Document for 126-DR-1	11/6/2008	11/12/2008
	RL/Regulator Sign Rev. 0 WI for 100-D-29	11/10/2008	11/13/2008
	RL/Regulator Sign Rev. 0 Closure Document for 100-D-61	11/15/2008	11/22/2008
100-F			
	RL/Regulator Review Draft A Closure Document for 100-F-44:4	6/24/2008 (A)	8/14/2008
	RL/Regulator Review of Draft A Closure Document 118-F-6	6/25/2008 (A)	8/8/2008
	RL/Regulator Review of Draft A Closure Document 128-F-2	7/10/2008 (A)	8/23/2008
	RL/Regulator Sign Rev. 0 Closure Document 128-F-2	8/18/2008	8/23/2008
	RL/Regulator Review Draft A SAI for 100-F-59	8/18/2008	9/7/2008
	RL/Regulator Review Draft A Closure Document for 100-F-26:9 Pipeline	8/18/2008	10/1/2008
	RL/Regulator Review Draft A WI for 100-F-44:5 Phase 2	8/21/2008	10/4/2008
	RL/Regulator Review Draft A WI for 100-F-53 Phase 2	8/21/2008	10/4/2008
	RL/Regulator Sign Rev. 0 Closure Document for 100-F-44:4	9/2/2008	9/8/2008
	RL/Regulator Sign Rev. 0 SAI for 100-F-59	9/17/2008	9/24/2008
	RL/Regulator Sign Rev. 0 WI for 100-F-44:5 Phase 2	9/22/2008	9/27/2008
	RL/Regulator Sign Rev. 0 Closure Document for 100-F-26:9 Pipeline	9/24/2008	10/1/2008
	RL/Regulator Sign Rev. 0 WI for 100-F-53 Phase 2	9/29/2008	10/4/2008
100-H			
	RL/Regulator Signature Rev. 0 WI for 100-H-36	8/18/2008	8/25/2008
100-N			
	RL/Regulator Review Draft A WI for 120-N-4	8/4/2008 (A)	9/17/2008
	RL/Regulator Sign Rev. 0 WI for 120-N-4	9/10/2008	9/17/2008

All Data is based on FY08/09 CPP with July 2008 Month End Status

Mission Completion
Sample Design and Cleanup Verification
for the August 2008 UMM

AREA	DOE-RL/REGULATOR DELIVERABLE	START	FINISH
100-IU-2/-6			
	RL/Regulator Sign Rev. 0 WI for 600-149	8/11/2008	8/18/2008
	RL/Regulator Review Draft A Closure Document for 600-111	8/20/2008	10/3/2008
	RL/Regulator Sign Rev. 0 Closure Document for 600-111	9/26/2008	10/3/2008
	RL/Regulator Approval of Backfill Concurrence for 600-149	10/30/2008	
300 Area			
	RL Review 618-10/11 Phase 2 Characterization Plan	2/26/2008 (A)	9/4/2008
	Regulator Review of Draft A Closeout Document 331 LSLDF	5/19/2008 (A)	8/7/2008
	Regulator Review of Draft A Closure Document 600-243	5/8/2008 (A)	8/14/2008
	Regulator Review Draft A WI for 300-32	7/15/2008 (A)	8/28/2008
	Obtain RL/EPA Approval of 618-10/11 SAP Rev. 0	8/7/2008	8/20/2008
	RL Review Draft B 300 Area ESD	8/18/2008	9/10/2008
	RL/Regulator Sign Rev. 0 WI for 300-32	8/21/2008	8/28/2008
	RL/Regulator Sign Rev. 0 Closure Document 600-243	9/2/2008	9/10/2008
	RL/Regulator Sign/Issue Rev. 0 Closure Document 331 LSLDF	9/16/2008	9/22/2008
	RL Review 300 Area RDR	9/23/2008	10/6/2008
	RL Issue 300 Area ESD for Public Review	11/3/2008	11/4/2008
100 Area			
	RL Approve 100-D AMP (100-D_MD_FS)	6/3/2008 (A)	8/12/2008
	RL Review of 100-A RDR	8/20/2008	10/3/2008
	RL/Regulator Review of 100-A SAP	8/20/2008	10/3/2008
	RL Review of Draft 100-A ESD	9/2/2008	10/17/2008

All Data is based on FY08/09 CPP with July 2008 Month End Status

Attachment 12

300 Area D4 Status
August 14, 2008
100/300 Area Combined Unit Manager Meeting

Ongoing Hazardous Material Removal

- **324**
- **327**
- **308**

Ready for Demolition:

- **337**
- **337B**
- **MO-036**

Demolition Activities:

- **321 –** Loadout underway
- **323 –** Loadout underway
- **3718A, B, C, E, G and N, 3727, 3728, 3721** – Begin loadout

60-Day Project Look Ahead

- Subcontractor mobilization to prepare for demolition at 337/337B
- Begin hazardous material removal at 309

Attachment 13

(13)

100 Area D4/ISS Status
August 14, 2008

100/300 Area Combined Unit Manager Meeting

Completed Activities

Completed By 6/30/08:
- Explosive Demo of the 116N Stack and 184N
- 1705N/NA, 1706N, 1712N, 1714N/NA/NB 105NB below grade demolition and waste load out
- Shipped 21 Drums and 3 pallets of waste to the 400 Area Recycle Center (from 1330N)
- Shipped 27 drums to ERDF (from 1330N)
- Recycled 24 drums of waste oil (from 1330N)
- Shipped the Linkbelt 5400 boom, shroud and counterweight to ERDF

Completed By 7/07/08:
- PAS-1 cask recertification
- 1330N above grade waste load out
- Shipped Linkbelt excavator 5400 to ERDF

Completed By 8/04/08:
- 105N Office Area Asbestos Abatement

Completed By 8/11/08:
- 105N hazardous material removal
- 182N hazardous material removal
- 105N Office Area Class I asbestos abatement demobilization
- 184N above grade demolition
- Radiological characterization of 181N
- 13N below grade demolition and waste load out
- 105B Reactor roof repairs

Subcontractor Activities

105-N/109-N – Subcontractor activities in 109-N complete except for the removal of oil from various systems throughout the facility. This work will be worked in conjunction with the removal of oil from 105-N; currently scheduled for October 2008. Work continues to remove various refrigerant containing appliances from 105-N. Asbestos abatement is working in 105-N room 6 and corridor 5, while corridors 1& 2 and the 40' elevation are being prepared for asbestos abatement. Waste load out to ERDF continues at the approximate rate of four cans per day.

Proposed work through 9/30/08

- 105B Reactor roof repair subcontractor demobilization
- 105N in basin video and radiological characterization
- 105N subcontractor hazardous material removal
- 107N mobilization

- 107N hazardous material removal
- 107N Chemical Annex characterization and demolition
- 108N above grade and below grade demolition
- 182N scaffold erection and Class I asbestos abatement
- 184N size reduction and waste load out
- 184N /184NA below grade demolition
- 1330N below grade demolition
- 1802N below grade demolition and waste load out
- Backfill operations at 1802N, 1705N/NA, 1706N, 1712N, 1714N/NA/NB, and 105NB
- Post Demolition Summary Reports – 163N & 183N
- D4 Facility Completion Reports – 163N & 183N
- Characterization activities:
    - Mobile Offices
    - 105N Basin
    - 107 Chemical Annex
    - 1112NA
    - 1119N
    - 1120N
    - 1310N
    - 1322N
    - 1112N

Attachment 14

(14)

Cathel, Robert L

From: Cathel, Robert L
Sent: Thursday, August 07, 2008 11:33 AM
To: 'Hake, Naomi M'
Cc: Saueressig, Daniel G; Guercia, Rudolph F
Subject: FW: 182-N raw water & demin water systems
Attachments: basis for use of raw water at 100-D 10-22-07.doc

Naomi,

Please see Ecology's support for our use of certain waters from 182N for dust suppression. This water will be used in active 100-N D4 activities (e.g. demolition of 184N). I would like to capture this agreement in the next 100/300 Area UMM minutes.

Please feel free to contacat me with any questions.

Cheers,
Bob

From: Vanni, Jean (ECY) [mailto:jeva461@ECY.WA.GOV]
Sent: Wednesday, August 06, 2008 3:30 PM
To: Cathel, Robert L
Cc: Smith-Jackson, Noe'l; Price, John; Shea, Jacqueline (ECY); Jones, Mandy E
Subject: 182-N raw water & demin water systems

Bob, Ecology supports your use of raw water from the 182-N RWS 100, DWR 14, and DWR 35 systems as dust suppressant. WCH will not over-apply this water; in other words, they will not increase their application rate above their normal application rate. Please have this captured in the 100/300 Area UMM minutes.

Also, I've attached an agreement which Ecology has with the 100-D Area work. Please review the document, and let me know if you concur with the approach for the 100-N area. If you do, we'll capture this agreement in the 100/300 Area UMM minutes.

Thank you,

Jean

Attachment 15

(15)

AGREEMENT BETWEEN DOE-RL AND ECOLOGY

100-N Ancillary Facilities RAWP Clarification

Ecology and DOE agree that the information below provides clarification of practices as discussed in current implementing documents (DOE/RL-2002-70 Rev. 2). Note that these two scenarios deal with removal of facilities with no associated waste sites beneath.

- If D4 removes the entire structure (i.e., building & foundation and/or pad) and there is not a waste site beneath it, D4 is obligated to look for staining or other evidence of potential leaks and conduct LARADS screening (or other appropriate radiological field screen based on what the facility was used for). If the radiological screen is clean (i.e., no anomalies, MDA generally at or below 2 times background) and there is no staining, no sampling is required and D4 actions at the site are complete. The completed D4 actions would be documented in a Facility Completion Form. If there is staining or a radiological anomaly (i.e., hot spot) is discovered, appropriate sample(s) (as determined on a case-by-case basis after consult with Ecology) of the stain or hot spot would be taken before it's backfilled. This then becomes a potential discovery site that needs to be documented and information provided to the Orphan site group for follow up. FR would be responsible for remediation of this discovery site. FR would conduct further sampling with soil removal to verify clean up goals were met in accordance with approved implementing documents.
- If D4 removes only a portion of the building and plans to leave concrete structure (i.e., remainder of the foundation and/or pad) in place and there is not a waste site beneath it, D4 is required to do visual inspection of the concrete to verify there is no staining and conduct LARADS screening (or other appropriate radiological field screen). If the radiological screen is clean and there is no staining, no sampling is required and D4 actions at the site are complete. If not, D4 will remove (e.g., via scabbling) the contamination until it's screened clean. D4 will verify through sampling (as determined on a case-by-case basis after consult with Ecology) that the materials left in place meet all cleanup goals.

  Example: The 184-N Power House is a 34-m by 29-m by 21-m (112-ft by 96-ft by 70-ft) reinforced-concrete and structural steel building with channeled steel siding on the above-grade portions of the facility. The facility housed a 15,000-kilowatt turbine generator that was driven by reactor-generated steam or by a 575,000-Btu/hr boiler contained in the facility or by associated auxiliary equipment, air compressors, and compressed air receivers. Chemicals used for water quality control were stored in the facility, and contamination of the facility occurred from pump/equipment leaks. The piping systems are wrapped with asbestos insulation materials. There is no appreciable radiological contamination in this facility and no underlying waste sites. This facility is expected to be removed to approximately 3-feet below grade and 5-feet out from the perimeter of the walls to account for building foundations and slabs. No chemical or radiological contamination is expected to be discovered in the portions of remaining concrete structure or underlying soils. If either staining or radiological contamination is found, the process as outlined above will be followed.